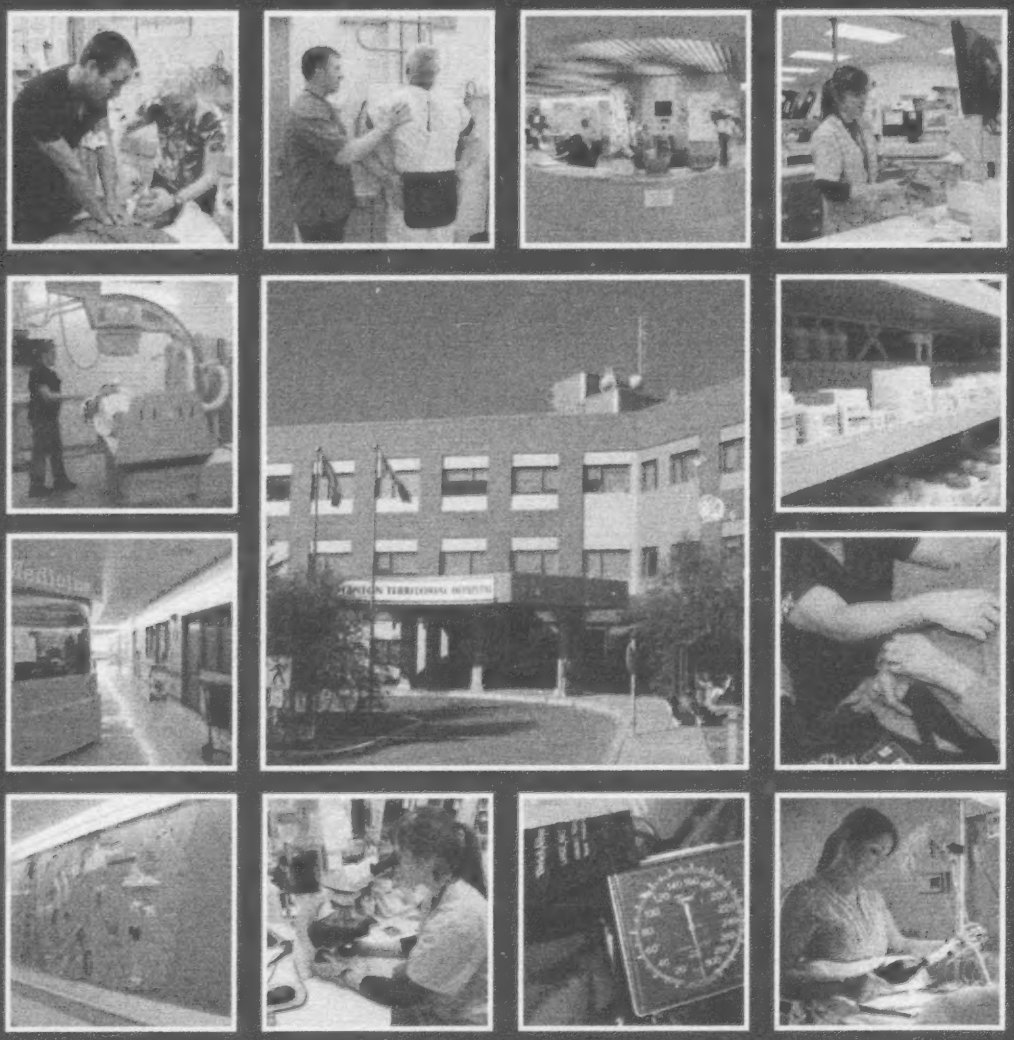
Northwest Territories
Hospitalization Report



Northwest Territories Health and Social Services

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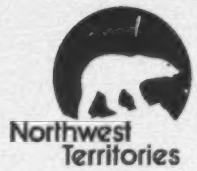

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English

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French

Kīspin ki nitawihtīn ē nīhīyawihk ōma ācimōwin, tipwāsinān.

Cree

TŁĮCHǪ YATI K'ĘĘ. DI WEGODI NEWǪ DÈ, GOTS'O GONEDE.

Tłı̨chǫ

ʔERIHTŁ'ÍS DËNE SÚŁINÉ YATI T'A HUTS'ELKËR
XA BEYÁYATI THEʔĄ ʔAT'E, NUWE TS'ËN YÓŁTI.

Chipewyan

EDI GONDI DEHGÁH GOT'ĮE ZHATIÉ K'ÉĘ́
EDATŁ'ÉH ENAHDDHĘ NIDE.

South Slavey

K'ÁHSHÓ GOT'ĮNE XƏDǾ K'É HEDERI
ʔEDĮHTL'É YERINIWĘ NÍDÉ DÚLE.

North Slavey

Jii gwandak izhii ginjìk vat'atr'ijąhch'uu zhit
yinohthan jì', diits'àt ginohkhìi.

Gwich'in

UVANITTUAQ ILITCHURISUKUPKU INUVIALUKTUN, QUQUAQLUTA.

Inuvialuktun

ᑕᑯᐊ ᑎᑎᖅᑲᓪᓚᑦ ᐱᓕᒪᔪᕐᑐᑦ ᐃᓄᒃᑎᑐᓗᖅᓯᒪᓕᓂᒃ,
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Inuktitut

Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.

Inuinnaqtun

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Executive Summary

The NWT Hospitalization Report profiles the reasons why NWT residents were hospitalized between 2008/09 and 2010/11. This report examines the top five causes for hospitalizations by age, as well as focuses on hospitalizations associated with mental illness, diabetes, and chronic kidney disease.

This report is intended to inform health promotion, prevention and disease management in NWT, by providing valuable baseline information for future evaluations and program reviews. It not only shows that the frequency and duration of hospitalizations change with age, but the causes of hospitalization change with age. By focusing further on hospitalizations due to select chronic conditions, this report brings a greater understanding of which segments of the population make up the majority of hospitalizations for mental health issues, diabetes and chronic kidney disease. Many hospitalizations are due to conditions that are largely preventable through making healthy lifestyle choices and/or seeking primary care services before a condition progresses to the point of requiring hospitalization.

Overview

Between 2008/09 and 2010/11, 3,533 NWT residents were hospitalized annually, at an estimated annual cost of $68.6 million. Approximately, 80% of these costs were for patients who were hospitalized due to a known disease, condition or injury, 10% were for hospitalizations where the reason was unknown or unclear and the remaining costs were for hospitalizations due to childbirth and pregnancy.

The possibility of being hospitalized, and the related cost of hospitalization, increases with age. The proportion of the population hospitalized ranged from 2% for 5 to 14 years olds to 30% for seniors - age 75 and over. The estimated hospitalization costs ranged from $249 per capita (per person) for the population age 5 to 14, to $10,966 per capita for the population age 75 and over.

Top Five Conditions by Age

The chart below provides the proportion of estimated hospitalization costs by the top five known conditions by age (childbirth and pregnancy hospitalizations are excluded).

Top 5 Conditions by Proportion of Estimated Hospitalization Costs
2008/09 to 2010/11 Annual Average by Age Group

Rank	Under 1	1 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 to 74	75 & Up
1	Perinatal Period 40%	Respiratory System 45%	Respiratory System 22%	Mental Health 39%	Mental Health 24%	Injuries & Poisonings 17%	Circulatory System 20%	Circulatory System 22%
2	Respiratory System 22%	Injuries & Poisonings 14%	Digestive System 17%	Injuries & Poisonings 28%	Digestive System 18%	Digestive System 13%	Cancers 15%	Injuries & Poisonings 16%
3	Congenital Anomalies 18%	Congenital Anomalies 13%	Injuries & Poisonings 17%	Digestive System 9%	Injuries & Poisonings 16%	Mental Health 12%	Respiratory System 12%	Respiratory System 13%
4	Infectious & Parasitic 4%	Digestive System 5%	Mental Health 10%	Respiratory System 5%	Respiratory System 6%	Circulatory System 12%	Injuries & Poisonings 12%	Cancers 11%
5	Blood Related 3%	Nervous System 4%	Endocrine, Nutritional & Metabolic 8%	Infectious & Parasitic 3%	Skin Related 6%	Respiratory System 11%	Digestive System 11%	Mental Health 8%
Other	12%	18%	27%	14%	30%	34%	30%	30%

Infants and Children

At the beginning of life, one of the main reasons for hospitalization is being born premature and/or having a low birth weight (conditions occurring in the perinatal period). Tobacco use, and/or exposure to second-hand smoke, while pregnant increase the risk of premature/low birth weight delivery. Such infants are at an increased risk of other health problems, including asthma, pneumonia, bronchiolitis, high blood pressure, renal disease, and heart disease, in their first year but also later in life.

Acute respiratory conditions, primarily bronchiolitis and pneumonia, are also major drivers of the hospitalization of infants. To some extent respiratory problems in infants may be caused and/or exacerbated by environmental exposure to second-tobacco smoke, poor ventilation and/or overcrowding in houses. Furthermore, infants and children having contracted bronchiolitis are at a greater risk of developing chronic lung problems later in life.

Hospitalizations to fix congenital anomalies (such as heart defects) also are prominent. Insufficient nutrient (e.g., folic acid) intake while pregnant and/or maternal consumption of alcohol and/or drugs can contribute to these.

As infants reach the toddler years, the frequency of hospitalization drops dramatically and the reasons for hospitalization change slightly. Hospitalizations for respiratory issues become more prominent and those related to congenital defects become less common.

As toddlers grow into young children the frequency of hospitalization drops again, while the reasons for hospitalization change again with injuries rising in prominence. Injury hospitalizations, for this age group, are primarily due to transportation accidents (e.g., collisions with pedestrian and motorcycle accidents) and falls.

Youth

Into the teen and young adult years, the frequency of hospitalization increases and the reasons for hospitalization change dramatically. Mental health issues and injuries are responsible for two-thirds of the hospitalizations of youth. Almost a quarter of the mental health issues are primarily due to alcohol and drug abuse – problems that generally can be dealt with outside of a hospital setting. Many of the injuries are due to assaults and self-harm – often with substance abuse and other mental health issues playing a factor.

Adults

With adults, 25 to 44, the frequency of hospitalizations increases slightly, relative to the population age 15 to 24, and mental health issues and injuries remain prominent – representing over 40% of hospitalizations and estimated costs. Substance abuse becomes the largest mental health issue, and assault remains the top cause of injury hospitalizations.

Into middle age, the frequency of hospitalization continues to increase and the type of conditions change. Injuries (assaults and falls) and mental health issues (primarily alcohol and drug abuse) are still prominent, while cardiovascular and chronic obstructive pulmonary diseases begin to emerge. Poor diet, alcohol abuse, smoking, and inactive lifestyles all contribute to diseases of the heart and veins that can eventually result in heart attacks and strokes. Smoking, as well as long-term exposure to second

hand smoke can cause chronic obstructive pulmonary disease. Liver disease due to long-term alcohol abuse is also a problem that emerges as a reason for hospitalization of older adults.

Seniors

For seniors, the chance of being hospitalized increases dramatically. Circulatory disease becomes the number one reason for hospitalization, and cancer becomes one of the top five reasons for being hospitalized. Colorectal, throat and lung cancers are the leading types of cancers when measured by the estimated cost of hospitalization. Colorectal cancer, while not always preventable, has been linked to lifestyle issues such as physical inactivity, low fruit and vegetable consumption, diet low in fibre and high in fat, being overweight, excessive alcohol consumption and tobacco use. Lung and throat cancers are often a result of tobacco use and/or exposure to second hand tobacco smoke. Alcohol abuse, as well as some types of the human papillomavirus (HPV) – which can be vaccinated against – can also cause some throat cancers.

Other issues decline as reasons for hospitalization, such as mental health issues - with the exception of dementia related conditions for older seniors. Injury hospitalizations remain prominent but change in nature with falls being responsible for over 60% of the injury hospitalization costs for seniors, age 75 and over.

Chronic Conditions

When particular chronic health conditions are examined in detail, it becomes readily apparent that certain segments of the population are more at risk to be hospitalized, as well as more likely to consume more hospital resources when hospitalized, than are others.

Mental Health

The demographic profile of the hospitalized patients, and the resources used to treat them, varies from one group of mental health issues to the next. Mental health issues are often multi-factored, where the patient can suffer from more than one condition concurrently (e.g., alcoholism and depression). Moreover, the mental health issue(s) can also be related, though secondary, to a more immediate reason for hospitalization such as an injury due to an assault or a fall.

Alcohol and drug abuse is the largest mental health issue resulting in hospitalization, affecting youth to seniors, men more so than women, the aboriginal population more so than the non-aboriginal population, and the population outside of Yellowknife more so than inside Yellowknife. When measured by the estimated cost of hospitalization, alcohol and drugs are more often a secondary factor than the primary reason for admission.

Hospitalizations for mood disorders (primarily depression) tend to be concentrated in the adult years. Women more so than men are affected by mood disorders, though the aboriginal population slightly less so than the non-aboriginal population, and residents of Yellowknife more so than those in the rest of the NWT.

With schizophrenia and other psychotic disorders, youth and younger adults make up most of the hospitalizations, males slightly more so than females, aboriginal people more so than non-aboriginal people and residents of Yellowknife more so than residents outside of Yellowknife. When people

suffering from schizophrenia are hospitalized, it is generally the primary reason for the hospitalization. Some schizophrenia hospitalizations also involve alcohol and/or drug abuse.

Anxiety disorder hospitalizations are concentrated in the youth and adult years. Women more so than men are affected by anxiety disorders, as are aboriginal residents compared to non-aboriginal residents and residents of Yellowknife more so than residents of the rest of the NWT.

Alcohol abuse, and to a lesser extent drug abuse, are common themes in mental health related hospitalizations. Much of the abuse stems from addiction, and the deep rooted mental health issues of the patient. Addressing these issues outside of a hospital setting, and thereby reducing the severity and the frequency of substance abuse, will in the long-run reduce hospitalizations for mental health issues. Moreover, addressing addiction and other mental health issues will reduce the hospitalizations due to the behaviour of extremely intoxicated people over the short term (e.g., injuries from falls, self-harm and assault), and the physically damaging effects of alcohol and drug abuse over the long term (e.g., cardiovascular diseases).

Diabetes

Hospitalizations where the patient suffers from diabetes result in a significant consumption of hospital resources. Diabetes is more often a secondary reason for a hospitalization, than the primary reason. In the majority of diabetes hospitalizations, the patient is also suffering from a cardiovascular disease (hypertension and/or heart disease).

Older adults and seniors, age 45 and over, made up the majority of the diabetes hospitalizations. Hospitalizations of patients with diabetes tend to be concentrated amongst men slightly more so than women, the non-aboriginal population more so than the aboriginal population, residents of the regional centres (Fort Smith, Hay River and Inuvik) relative to those from Yellowknife or the smaller communities.

Modifiable risks factors for diabetes include being overweight, a poor diet, physical inactivity and smoking. Primary care level interventions with patients at risk of becoming diabetic, and those with diabetes, can help to reduce the incidence of the disease as well as manage the condition before it leads to other health problems. These other health problems include heart disease, chronic kidney disease, blindness, nerve damage, reduced ability to fight infections, depression, and stress. Not only can these health problems lead to a reduction in the quality of life, but they can also result in lengthy hospital stays and potentially premature death.

Chronic Kidney Disease

Hospitalizations where the patient suffers from chronic kidney disease also result in a significant consumption of hospital resources. Chronic kidney disease patients also often suffer from other health conditions, such as cardiovascular disease and diabetes. Older adults and seniors make up the majority of chronic kidney disease hospitalizations. Other demographic analysis showed that men are hospitalized more often than women, aboriginal patients slightly more so than non-aboriginal patients, and residents of regional centres more so of the rest of the NWT.

The modifiable risk factors for chronic kidney disease, in addition to those for diabetes, include heavy alcohol consumption. Medical risk factors, if not treated and/or controlled, include: diabetes, high blood pressure, urinary tract infections, kidney and urinary stones and streptococcal infections. Primary care

interventions with patients at risk for chronic kidney disease can help to reduce the chance of patients developing chronic kidney disease, reducing the need for dialysis, expensive transplants, hospitalizations and unnecessary deaths.

Conclusion

The *NWT Hospitalization Report* reinforces the message that many of the hospitalizations of NWT residents are preventable through healthy lifestyle choices. The NWT population scores poorly on a number of behaviours: smoking, alcohol abuse, obesity/overweight, low fruit and vegetable intake, and physical inactivity. Any reduction in the high rate of these negative lifestyle behaviours will eventually result in a reduction in the incidence of chronic and other diseases, thereby reducing the amount of preventable hospitalizations.

Chapter 1: Introduction

Background

The last report on hospital utilization by NWT residents was published in 2007. The *Hospital Services Report* examined the use of hospital services by age, from childhood to the senior years, highlighting the use of hospital services for preventable conditions.

Health service utilization reports, focusing on hospital services, physician services and health centre services are published on a five year cycle. Together, these three reports provide a picture of the main health problems that drive the utilization of the NWT health care system. The *NWT Hospitalization Report* is the next report due to be published in this cycle.

Current Format

The *NWT Hospitalization Report* goes beyond the *Hospital Services Report*, to not only provide an examination of utilization by age and by reason for hospitalization, but also a series of focused chapters on hospitalizations for mental health issues, diabetes, and chronic kidney disease. These three sets of conditions have been the initial focus in the development of a chronic disease prevention and management strategy in the NWT. The purpose of focusing in on these three subjects is to bring attention to the amount of hospital resources taken up by hospitalizations that might be either treated in another, less costly setting, or prevented altogether.

The information in this report is intended to inform health promotion as well as disease prevention and management efforts in the NWT, by providing valuable baseline information for future evaluations and program reviews.

Hospital System

The NWT relies on four in-territory facilities (Stanton Territorial, Inuvik Regional, H.H. Williams Memorial and Fort Smith) as well as selected hospitals in Edmonton, Alberta. Of the four in-territory facilities, Stanton Territorial Hospital located in the City of Yellowknife provides the widest range of services to the entire NWT population. Stanton's territorial focus allows it to offer the services of specialist physicians and specialized equipment, not only providing basic services but also providing services more advanced than those that can be offered at the other three NWT facilities.

The Inuvik Regional Hospital located in the Town of Inuvik provides services primarily to the residents of Inuvik and the population of the communities of the Beaufort-Delta Region. H.H. Williams Memorial in

the Town of Hay River provides services primarily to the residents of Hay River but also to residents from surrounding communities. Fort Smith Health Centre primarily services the Town of Fort Smith. [1]

When patients require services or care that is more specialized or advanced, than can be offered in the NWT, they are treated in southern Canada. Hospitals in Edmonton, and Alberta, in general, provide the majority of the services received by NWT residents outside of the NWT.

Scope of the Report

This report profiles the reasons why residents of the NWT were hospitalized, overall and across the three areas of focus: mental health, diabetes, and chronic kidney disease.

The time period examined is 2008/09 to 2010/11, with data presented in three-year averages. The NWT population is relatively small, and three-year averages allow for a greater degree of reliability when examining the particular reasons for hospitalization.

Cost estimates are the primary measure of hospitalizations, though data on discharges (visits), bed days (time spent hospitalized) and unique patients (patient counted once per year), are presented to provide greater context. Some conditions generally require shorter hospital stays, with a less intensive use of resources, but result in more frequent hospitalizations (e.g., alcohol abuse) than other conditions (e.g., heart failure or a serious injury). Intensive care resources cost more, often several times than that of general care resources. An estimate of these costs provides a more balanced measure than can be provided by the number of hospitalizations, or the total length of stay.

Cost estimates are based on a combination of the 2012/13 rates for a bed day of care set for each Canadian hospital by the Interprovincial Health Insurance Agreements Coordinating Committee (IHIACC), and the proportion of hospital resources (resource intensity weights) estimated by the Canadian Institute for Health Information (CIHI) consumed during each hospitalization. More detail on the cost estimation methodology is provided in Appendix C.

This report examines all hospitalizations – in and outside of the NWT – in totality, regardless of where the hospitalization took place (excluding Quebec and international hospitalizations). While hospital services provided to patients outside of the NWT are generally of greater intensity or complexity than those services provided within the NWT, this report is not a review of the appropriateness of services provided by one hospital system compared to the next. Appendix B provides some general metrics of hospitalizations outside versus inside the NWT.

[1] H.H. Williams Memorial and the Fort Smith Health Centre are no longer considered hospitals but continue to operate acute care beds and to report inpatient stays (patients admitted to a bed) to the Canadian Institute for Health Information. For the purpose of this report, inpatient stays at the two facilities are considered hospitalizations.

Chapter 2: Overview

Approximately 3,533 NWT residents were hospitalized annually between 2008/09 and 2010/11, at an estimated annual cost of $68.6 million.[2] Over 80% of the hospitalizations, and associated costs, occurred in the Northwest Territories – averaging 4,227 discharges per year at an estimated cost of $55.4 million, compared to 866 discharges and $13.1 million per year at out of territory facilities.

Table 2.1 shows overall utilization by age group. The chance (unique patients per 1,000) of hospitalization, and the frequency (discharges per 1,000) of being hospitalized, were highly influenced by age. Infants, especially those a few days old were more likely to be hospitalized than toddlers. Infants were hospitalized over four times as often as children age 1 to 4 years (190 versus 45 unique patients per 1,000).[3]

Children age 1 to 4 and 5 to 14 years were the least likely to be hospitalized, at 45 and 20 patients per 1,000, respectively, and hospitalized less often at 57 and 26 discharges (visits) per 1,000. The estimated cost per capita was also lower at $574 and $249.

Table 2.1
Utilization by Age Group
2008/09 to 2010/11 Annual Average

Age Group	Unique Patients per 1,000	Discharges per 1,000	Average Stay (Days)	Estimated Cost Per Capita
Total	81	116	5.4	$ 1,568
Under 1	190	255	5.8	$ 4,665
1 to 4	45	57	3.2	$ 574
5 to 14	20	26	3.3	$ 249
15 to 24	79	99	3.9	$ 990
25 to 44	86	115	3.9	$ 1,165
45 to 64	82	126	6.0	$ 1,881
65 to 74	189	338	8.1	$ 6,597
75 & Up	299	527	9.8	$ 10,966

Utilization increased in the next age group, youth 15 to 24, with the emergence of mental health issues, injuries and reproduction (childbirth and pregnancy).

Reasons for hospitalizations began to change in the adult years. Mental health issues were still prominent, as were injuries, though somewhat less so than for youth. Issues such as digestive diseases rose in prominence (e.g., gallstones, intestinal issues). And, as adults moved into middle age, health issues increased in number and severity, with a number of varied issues dominating the reasons for hospitalization. Such issues included: injuries, intestinal and stomach disorders, alcohol abuse, heart disease and stroke, pneumonia and chronic obstructive pulmonary diseases.

[2] Costs have been estimated based on 2012/13 interprovincial per day billing rates. For more information see Appendix C.
[3] Newborns are excluded from this report.

In the senior years, the reasons for hospitalizations shifted again, as the frequency and duration of hospitalizations increased. Heart attacks and strokes, cancer, pneumonia and chronic obstructive pulmonary diseases were prominent reasons for hospitalizations, for those 65 to 75 and 75 and over. Utilization by seniors, age 65 to 74, and age 75 and over, doubled and tripled, respectively, relative to those age 45 to 64. On average 19% of the population age 65 to 74 (189 per 1,000) were hospitalized annually. For older seniors (age 75 and over), the rate grew again, with 30% of the population hospitalized annually (299 per 1,000). The time it took to leave the hospital also increased, as the severity of the impact of chronic diseases increases with age. Along with an increase in the average length of stay, patients were more likely to be hospitalized more than once per year, resulting in higher costs - $6,597 and $10,966 per capita, respectively.

Table 2.2
Utilization by Gender
2008/09 to 2010/11 Annual Average

	Unique Patients per 1,000	Discharges per 1,000	Average Stay (Days)	Estimated Cost Per Capita
Females	99	136	4.7	$ 1,624
Females (x-C&P)	65	96	5.5	$ 1,316
Males	64	98	6.3	$ 1,516

Note: x-C&P = excluding Childbirth and Pregnancy

Gender was a factor as well in the frequency and nature of a hospitalization, though much less so than age. As seen in Table 2.2 females were more likely to be hospitalized, more frequently and cost more per capita than males. However, the apparent gender difference in the likelihood and frequency of hospitalization virtually disappeared, when hospitalizations for childbirth and pregnancy were removed. The overall difference between females and males, for average length of stay, narrowed somewhat when hospitalizations for childbirth and pregnancy were removed.

Table 2.3
Utilization by Ethnicity and Community Type
2008/09 to 2010/11 Annual Average

	Unique Patients per 1,000	Discharges per 1,000	Average Stay (Days)	Estimated Cost Per Capita
Aboriginal	91	134	5.2	$ 1,714
Non-Aborginal	61	87	5.6	$ 1,208
Yellowknife	73	102	5.6	$ 1,419
Regional Centres	98	153	4.9	$ 1,880
Smaller Communities	81	109	5.7	$ 1,547

Table 2.3 shows utilization by ethnicity and by community type. Aboriginal residents were more likely to be hospitalized than non-aboriginal residents. Residents of the regional centres (Fort Smith, Hay River and Inuvik) were the most likely to be hospitalized, followed by residents of the smaller communities and then Yellowknife.

Chapter 3: Utilization by Age and Top 5 Conditions

Between 2008/09 and 2010/11, 2,528 patients, were hospitalized 3,644 times, staying 22,266 days at an estimated annual cost of $55 million where the diagnosis was known.[4] Over the same time period, an average of 513 patients, were hospitalized 601 times, for a total length of stay of 3,017 bed days at an estimated cost of $7 million where the primary reason (diagnosis) was unclear.

The following analysis describes the top five conditions by age group where the primary diagnosis was known, followed by a brief profile of hospitalizations where the diagnosis was unclear or where the patient was receiving care for other reasons. The reasons for hospitalization have been short-formed and described in simple manner. Definitions of the medical terms used here have been presented in Appendix A.

Infants (Under 1 Year)

Annually, 136 infants were hospitalized 163 times, resulting in 1,003 bed days at an estimated cost of $3.2 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were respiratory related diseases, conditions occurring in the perinatal period (22th week of gestation to 7 days after birth), congenital anomalies, infectious and parasitic diseases, digestive system conditions (unique patients and discharges) and blood related diseases (bed days and estimated cost) (see Table 3.1).

Table 3.1
Under 1 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (136)	Discharges (163)	Bed Days (1003)	Estimated Cost ($3,175,668)
1	Respiratory System 39%	Respiratory System 40%	Perinatal Period 38%	Perinatal Period 40%
2	Perinatal Period 28%	Perinatal Period 28%	Respiratory System 26%	Respiratory System 22%
3	Congenital Anomalies 10%	Congenital Anomalies 10%	Congenital Anomalies 16%	Congenital Anomalies 18%
4	Infectious & Parasitic 6%	Infectious & Parasitic 6%	Blood Related 4%	Infectious & Parasitic 4%
5	Digestive System 4%	Digestive System 4%	Infectious & Parasitic 4%	Blood Related 3%
Other	13%	13%	11%	12%

Conditions occurring during the perinatal period were responsible for 40% of the estimated hospitalization costs - $1.3 million per year. Approximately 45% of these costs were due to issues related to the infant being premature and/or having a low birth weight. A further 29% of costs were due to respiratory conditions (respiratory distress), with

[4] Hospitalizations for pregnancy and childbirth have been excluded from the hospitalization data in this chapter, in order to focus on disease and conditions.

the remaining costs being associated with a range of issues, including jaundice and feeding problems.

Respiratory diseases accounted for 22% of costs - $708,000 per year. Acute bronchiolitis accounted for 39% of these costs, followed by pneumonia at 35%, and pneumonitis due to external agents (inflammation of lungs due to the inhalation of materials) at 10%. The remaining costs were primarily due to acute upper respiratory infections (colds, throat infections).

Congenital anomalies accounted for 18% of costs - $587,000 per year. Hospitalizations to correct malformations of parts of the heart (valves and chambers) accounted for 57% of these costs. The remaining hospitalization costs were primarily for intestinal issues and cleft lip and/or palate.

Infectious and parasitic diseases were responsible for 4% ($115,000 per year) and blood related diseases were responsible for 3% ($105,000 per year). Infectious diseases were primarily intestinal infections, whooping cough and septicaemia (bacterial blood infection). Blood related disorders were primarily autoimmune related, such as histiocytosis (an abnormal production of immune cells).

Children (Age 1 to 4 Years)

Annually, 117 children were hospitalized 134 times, resulting in 438 bed days at an estimated cost of $1.4 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were respiratory related diseases, injuries and poisonings, congenital anomalies, infectious and parasitic diseases (unique patients and discharges), digestive system (bed days and costs), skin related issues (unique patients and discharges), musculoskeletal (bed days) and nervous system diseases (estimated cost).

Table 3.2
Age 1 to 4 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (117)	Discharges (134)	Bed Days (438)	Estimated Cost ($1,363,244)
1	Respiratory System 55%	Respiratory System 56%	Respiratory System 49%	Respiratory System 45%
2	Injuries & Poisonings 11%	Injuries & Poisonings 12%	Injuries & Poisonings 11%	Injuries & Poisonings 14%
3	Infectious & Parasitic 7%	Infectious & Parasitic 6%	Congenital Anomalies 8%	Congenital Anomalies 13%
4	Congenital Anomalies 4%	Congenital Anomalies 4%	Digestive System 6%	Digestive System 5%
5	Skin Related 4%	Skin Related 4%	Musculoskeletal 4%	Nervous System 4%
Other	19%	19%	21%	18%

Respiratory diseases accounted for an estimated 45% of hospitalization costs of children age 1 to 4, at approximately $619,000 per year. Pneumonia related hospitalizations made up 36% of these costs,

bronchiolitis 24% of costs and influenza 11% of costs. The remaining costs were primarily to treat upper respiratory infections (throat infections, colds), tonsillitis and asthma.

Injuries accounted for 14% of hospitalization costs at $196,000 per year. Complications due to medical treatments and surgical procedures made up 60% of these costs and injuries due to falls made up 14%. The remaining costs were due to a number of causes, including poisonings and burns.

Congenital anomalies resulted in 13% of hospitalization costs, averaging $171,000 per year. The majority of these costs were due to heart defects (malformation of valves and chambers of the heart).

Digestive system disorders made up 5% of costs, at $65,000 per year and diseases of the nervous system at 4%, at $61,000 per year. Stomach and intestinal related issues made up most of the digestive disease costs and epilepsy the majority of nervous system issues.

Children (Age 5 to 14 Years)

Annually, 118 children were hospitalized 138 times, resulting in 480 bed days at an estimated cost of $1.4 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were respiratory related diseases, injuries and poisonings, digestive system diseases, mental health, nervous system diseases (unique patients and discharges), and endocrine, nutritional and metabolic diseases (bed days and costs).

Respiratory diseases accounted for 22% of hospitalization costs, averaging 297,000 per year. Pneumonia accounted for 31% of the costs, asthma at 26%, influenza at 25%, with upper respiratory infections making up most of the remaining costs.

Digestive system diseases were responsible for 17% of costs - $239,000 per year. Appendicitis accounted for 47% of these costs. Intestinal issues (abscesses) accounted for a further 25% of costs.

Table 3.3
Age 5 to 14 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (118)	Discharges (138)	Bed Days (480)	Estimated Cost ($1,377,100)
1	Respiratory System 26%	Respiratory System 28%	Respiratory System 19%	Respiratory System 22%
2	Injuries & Poisonings 23%	Injuries & Poisonings 21%	Digestive System 18%	Digestive System 17%
3	Digestive System 13%	Digestive System 13%	Injuries & Poisonings 15%	Injuries & Poisonings 17%
4	Mental Health 11%	Mental Health 10%	Mental Health 11%	Mental Health 10%
5	Nervous System 6%	Nervous System 6%	Endocrine, Nutritional & Metabolic 10%	Endocrine, Nutritional & Metabolic 8%
Other	22%	22%	27%	27%

The remaining costs involved a variety of issues, including stomatitis (inflammation of the lining of the lips and mouth) and Crohn's disease (type of inflammatory bowel disease).

Injuries and poisoning accounted for another 17% of costs - $230,000 per year. Transportation related accidents made up 35% of injury hospitalizations costs, falls 29%, with the remaining costs spread over a number of causes, including poisoning, assaults and self-harm.

Mental health issues were responsible for 10% of costs - $138,000. Mood disorders (depression and bi-polar) accounted for 30% of costs, followed by alcohol and drug abuse at 28%, behavioural issues (attention deficit hyperactivity, aggressive anti-social behaviour) at 23% and neurotic disorders (anxiety and stress reactions) at 18%.

Endocrine, nutritional and metabolic related hospitalizations accounted for 8% of costs - $105,000 per year. Patients with cystic fibrosis (complex genetic disorder primarily affecting the lung and digestive system) made up 78% of these costs, with the remaining cost primarily made up by patients with diabetes.

Youth (Age 15 to 24 Years)

Annually, 324 youth were hospitalized 377 times, resulting in 1,850 bed days at an estimated cost of $4.5 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were mental health, injuries and poisonings, digestive system diseases, respiratory system diseases, genitourinary system diseases (unique patients and discharges), and infectious and parasitic (bed days and costs).

Table 3.4
Age 15 to 24 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (324)	Discharges (377)	Bed Days (1,850)	Estimated Cost ($4,469,995)
1	Injuries & Poisonings 30%	Mental Health 31%	Mental Health 49%	Mental Health 39%
2	Mental Health 28%	Injuries & Poisonings 28%	Injuries & Poisonings 23%	Injuries & Poisonings 28%
3	Digestive System 13%	Digestive System 12%	Digestive System 7%	Digestive System 9%
4	Respiratory System 10%	Respiratory System 9%	Respiratory System 4%	Respiratory System 5%
5	Genitourinary 5%	Genitourinary 5%	Infectious & Parasitic 4%	Infectious & Parasitic 3%
Other	15%	15%	12%	14%

Mental health issues accounted for 39% of hospitalization costs - $1.8 million per year - for youth age 15 to 24 years. Schizophrenia and other psychotic disorders accounted for 38% of these costs. Alcohol and drug related hospitalizations accounted for 24% of costs. Mood related disorders

(e.g., depression and bi-polar) accounted for a further 20% of costs. The remaining mental health related hospitalization costs, involved a number of issues, primarily including anxiety disorders.

Injuries accounted for 28% of hospitalization costs for youth ($1.3 million per year). Injuries arising from assaults were the cause of 37% of youth injury hospitalizations. Transportation accidents caused 16% of these costs, followed by self-harm (suicide attempts, such as drug overdoses) at 16%, and falls at 11%. The remaining hospitalization costs were spread across a number of causes, including complications due to medical and surgical treatments and poisonings.

Digestive system diseases made up 9% of the hospitalization costs, averaging $423,000. Issues surrounding the appendix (appendicitis) and the gallbladder (gallstones) amounted to 67% of the digestive system hospitalizations for youth. The remaining costs were spread across a number of issues, including inflammation of the pancreas, gastroenteritis, and gastritis.

Respiratory diseases made up 5% ($233,000) and infectious and parasitic diseases made up 3% ($139,000). Respiratory diseases were primarily tonsillitis, pneumonia, and asthma. Infectious diseases were primarily tuberculosis and intestinal diseases.

Adults (Age 25 to 44 Years)

Annually, 734 adults were hospitalized 918 times, resulting in 4,244 bed days at an estimated cost of $10.7 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were mental health, injuries and poisonings, digestive diseases, respiratory diseases, genitourinary diseases (unique patients and discharges), and skin-related diseases (bed days and costs).

Mental health issues represented 24% of hospitalization costs - $2.6 million per year - for adults, age 25 to 44 years. Alcohol and drug related hospitalizations accounted for 36% of mental health costs. Schizophrenia and psychotic disorders accounted for 30% of these costs. Mood related

Table 3.5
Age 25 to 44 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (734)	Discharges (918)	Bed Days (4,244)	Estimated Cost ($10,679,699)
1	Injuries & Poisonings 21%	Mental Health 24%	Mental Health 29%	Mental Health 24%
2	Mental Health 20%	Injuries & Poisonings 19%	Digestive System 17%	Digestive System 18%
3	Digestive System 18%	Digestive System 18%	Injuries & Poisonings 14%	Injuries & Poisonings 16%
4	Genitourinary 10%	Genitourinary 9%	Skin Related 7%	Respiratory System 6%
5	Respiratory System 7%	Respiratory System 7%	Respiratory System 6%	Skin Related 6%
Other	24%	24%	28%	30%

disorders (e.g., depression and bi-polar) accounted for a further 20% of costs. The remaining mental health related hospitalization costs, involved a number of issues, primarily anxiety disorders.

Digestive system disorders made up 18%, $1.9 million annually, for adults age 25 to 44. Gallbladder problems (primarily gallstones) accounted for 21% of the cost of digestive system related hospitalizations. Intestinal conditions, such as diverticular disease (complication resulting from small pouches bulging outward through the intestinal lining), Crohn's disease and ulcerative colitis, were responsible for 19% of these hospitalization costs. Post-procedural complications related to the digestive system accounted for 12% of costs, as did the inflammation (swelling) of the pancreas at 12% and appendicitis at 10%. The remaining digestive system hospitalizations were spread across a number of different conditions, including hernias, gastritis, ulcers and liver diseases.

Injuries accounted for 16% of hospitalization costs for adults ($1.7 million per year). Injuries arising from assaults were the cause of 22% of injury hospitalizations. Complications due to medical and surgical treatments were responsible for 19% of costs. Falls caused 15% of injury costs, transportation accidents contributed to 14% of these costs, followed by self-harm (such as suicide attempts via drug overdoses) at 11%. The remaining hospitalization costs were spread across a number of causes, including fires and poisonings.

Diseases of the respiratory system ($666,000) and diseases of the skin and subcutaneous tissue ($630,000) were each responsible for an estimated 6% of hospitalization costs. Pneumonia was responsible for 30% of respiratory conditions, with the remaining respiratory costs spread out across a number of conditions, including asthma, tonsillitis and chronic obstructive pulmonary diseases. Over 70% of the cost of skin disease related hospitalizations were due to patients suffering from decubitus ulcers (bed sores). The remaining costs were spread across a number of skin-related conditions, primarily including cellulitis (skin rash) and abscesses.

Adults (Age 45 to 64 Years)

Annually, 917 adults, age 45 to 64 years, were hospitalized 1,144 times, resulting in 7,389 bed days at an estimated cost of $18.2 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were injuries and poisonings, digestive system diseases, mental health, circulatory diseases and respiratory diseases.

Injuries accounted for 17% of hospitalization costs for older adults, age 45 to 64 ($3.1 million per year). Injuries arising from assaults were the cause of 35% of injury hospitalizations. Complications due to medical and surgical treatments were responsible for 30% of costs and injuries from falls caused 19% of these costs. The remaining hospitalization costs were spread across a number of causes, including transportation accidents and self-harm.

Table 3.6
Age 45 to 64 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (917)	Discharges (1,144)	Bed Days (7,389)	Estimated Cost ($18,184,605)
1	Digestive System 16%	Digestive System 17%	Injuries & Poisonings 17%	Injuries & Poisonings 17%
2	Injuries & Poisonings 14%	Injuries & Poisonings 14%	Mental Health 16%	Digestive System 13%
3	Circulatory System 12%	Circulatory System 13%	Digestive System 13%	Mental Health 12%
4	Mental Health 11%	Mental Health 12%	Respiratory System 10%	Circulatory System 12%
5	Respiratory System 9%	Respiratory System 10%	Circulatory System 10%	Respiratory System 11%
Other	38%	34%	34%	34%

Diseases of the digestive system were responsible for 13% of hospitalization costs, averaging over $2.3 million per year. Intestinal disorders amounted to 22% of these hospitalization costs, including such conditions as diverticular diseases and intestinal blockages. Gallbladder disorders, primarily gallstones, accounted for 17% of these costs. Liver diseases (failure, alcohol damage), stomach issues (gastritis and ulcers) and pancreatic issues (inflammation of the pancreas) were each responsible for 12% of the costs. The remaining costs were spread across a number of issues including hernias and appendicitis.

Mental health issues represented 12% of hospitalization costs – under $2.3 million per year - for adults, age 45 to 64 years. Alcohol and drug related hospitalizations accounted for 45% of mental health costs. Mood disorders (depression, bi-polar) accounted for 20% of the costs. Schizophrenia and other delusional disorders made up 14% of the costs. The remaining mental health related hospitalization costs, involved a number of issues, primarily including dementia, and anxiety disorders.

Circulatory system diseases also accounted for 12% ($2.2 million) of the estimated hospitalization costs for older adults. Heart diseases, such as acute myocardial infarctions (heart attacks), angina (chest pain associated with heart disease), arrhythmias (irregular heartbeats) and heart failure, made up 64% of the total circulatory system related hospitalization costs. Cerebrovascular diseases (strokes) accounted for 26% of the costs. The remaining costs for circulatory disease hospitalizations were due to a number of conditions, including diseases of the arteries (hardening, and clots in veins).

Respiratory system diseases were responsible for an estimated 11% ($2.0 million) of hospitalization costs of older adults. Pneumonias and chronic obstructive pulmonary diseases were each responsible for 31% of respiratory hospitalization costs. Respiratory failure accounted for another 21% of costs and the remaining costs were due to a number of conditions, including pneumonitis due to solid/liquids (inflammation of lungs due to the inhalation of materials) and influenza.

Seniors (Age 65 to 74 Years)

Annually, 306 seniors, age 65 to 74 years, were hospitalized 397 times, resulting in 3,280 bed days at an estimated cost of $8.0 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were circulatory diseases, cancers, respiratory diseases, injuries and poisonings, and digestive system diseases (see Table 3.7).

Table 3.7
Age 65 to 74 by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (306)	Discharges (397)	Bed Days (3,280)	Estimated Cost ($8,010,315)
1	Circulatory System 18%	Circulatory System 20%	Circulatory System 19%	Circulatory System 20%
2	Respiratory System 15%	Respiratory System 15%	Cancers 15%	Cancers 15%
3	Digestive System 12%	Cancers 12%	Respiratory System 12%	Respiratory System 12%
4	Cancers 11%	Digestive System 12%	Injuries & Poisonings 11%	Injuries & Poisonings 12%
5	Injuries & Poisonings 11%	Injuries & Poisonings 10%	Digestive System 11%	Digestive System 11%
Other	33%	31%	32%	30%

Circulatory system diseases made up 20% ($1.6 million) of the estimated hospitalization costs for seniors age 65 to 74. Heart diseases, such as heart failure, acute myocardial infarctions (heart attacks), arrhythmias (irregular heartbeats) and angina, made up 60% of the total circulatory system related hospitalization costs. Cerebrovascular diseases (strokes) accounted for 35% of the costs. The remaining costs for circulatory disease hospitalizations were due to a number of conditions, including diseases of the arteries (hardening, and clots in veins).

Various cancers were responsible for 15% ($1.2 million) of hospitalization costs. Throat cancers accounted for 30% of these costs. Cancers of the digestive system (primarily colon) made up 24% of

these costs. Lung cancer accounted for another 16% of costs, with a number of other cancers, accounting for the remaining hospitalization costs.

Diseases of the respiratory system accounted for 12% ($977,000) of hospitalization costs. Pneumonias and chronic obstructive pulmonary diseases were each responsible for 38% of respiratory hospitalization costs. Respiratory failure accounted for another 8% of costs and the remaining costs were due to a number of conditions, including pneumonitis due to solid/liquids (inflammation of lungs due to the inhalation of materials) and influenza.

Injuries accounted for 12% ($941,000) of hospitalization costs for seniors age 65 to 74. Complications due to medical and surgical treatments were responsible for 44% of costs and injuries from falls caused 37% of these costs. The remaining hospitalization costs were spread across a number of causes, including transportation accidents and poisonings.

Digestive system diseases accounted for 11% ($859,000) of hospitalization costs. Gallbladder issues (stones, inflammation), liver disease (primarily due to alcohol abuse), and intestinal problems (blockages, inflammation) were responsible for half of these costs. The remaining costs were due to a variety of conditions, including hernias, appendicitis, and pancreatic problems.

Seniors (Age 75 & Over)

Annually, 297 seniors, age 75 and over, were hospitalized 371 times, resulting in 3,581 bed days at an estimated cost of $7.8 million.

In terms of unique patients, discharges, bed days and estimated costs, the top five conditions were circulatory diseases, injuries and poisonings, respiratory diseases, cancers, mental health (bed days and costs), and digestive system diseases (unique patients and discharges) (see Table 3.8).

Circulatory system diseases made up 22% ($1.7 million) of the estimated hospitalization costs for seniors age 75 and over. Heart diseases, such as heart failure, acute myocardial infarctions (heart attacks), arrhythmias (irregular heartbeats)

Table 3.8
Age 75 & Up by Top 5 Conditions
2008/09 to 2010/11 Annual Average

Rank	Metric			
	Unique Patients (297)	Discharges (371)	Bed Days (3,581)	Estimated Cost ($7,780,545)
1	Circulatory System 20%	Circulatory System 22%	Circulatory System 21%	Circulatory System 22%
2	Respiratory System 17%	Respiratory System 17%	Injuries & Poisonings 15%	Injuries & Poisonings 16%
3	Injuries & Poisonings 12%	Injuries & Poisonings 12%	Respiratory System 12%	Respiratory System 13%
4	Digestive System 12%	Digestive System 11%	Cancers 11%	Cancers 11%
5	Cancers 8%	Cancers 8%	Mental Health 10%	Mental Health 8%
Other	32%	29%	31%	30%

and angina, made up 57% of the total circulatory system related hospitalization costs. Cerebrovascular diseases (strokes) accounted for 29% of the costs. The remaining costs for circulatory disease hospitalizations, were due to a number of conditions, including hypertension, and diseases of the arteries (hardening, and clots in veins).

Injuries accounted for 16% ($1.2 million) of hospitalization costs for older seniors age 75 and over. Falls accounted for 61% of the estimated cost of injury hospitalizations. Complications due to medical and surgical treatments were responsible for 29% of costs. The remaining hospitalization costs were spread across a number of causes, including assaults and transportation accidents.

Diseases of the respiratory system accounted for 13% ($1.0 million) of hospitalization costs. Chronic obstructive pulmonary disorders were responsible for 54% of the costs. Pneumonias were responsible for 33% of respiratory hospitalization costs. The remaining costs were due to a number of conditions, including pneumonitis due to solid/liquids (inflammation of lungs due to the inhalation of materials) and influenza.

Various cancers were responsible for 11% ($830,000) of hospitalization costs. Colorectal cancer was responsible for 24% of the estimated costs, lung cancer for 13% and bladder for 10%. Much of the other cancer hospitalizations were a number of different cancers, including lymphatic, pancreatic and stomach as well as cancers that had originated in one part of the body only to have spread to other sites (primarily the intestines and bones).

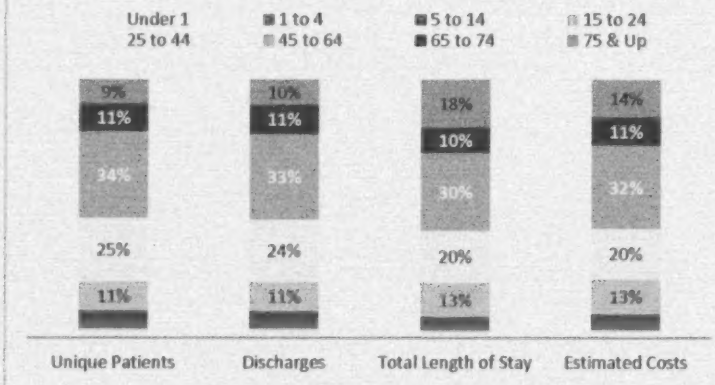
Hospitalizations for mental health conditions accounted for 8% ($656,000) of the estimated cost of hospitalizations for older seniors, age 75 and over. Dementia and other related issues accounted for half of the costs, followed by alcohol and drug problems at 32%. The remaining mental health hospitalization costs for older seniors were due to anxiety, depression and psychosis.

Symptoms and Ill-Defined Conditions

Between 2008/09 and 2010/11, there were 367 patients hospitalized, costing an estimated $3.7 million, per year, where the patient's condition could not be clearly defined. In these cases, patients were exhibiting symptoms or signs, such as pain, trouble breathing, or dizziness. The illness, or illnesses, that caused these symptoms had not been diagnosed by the time of their discharge from the hospital.

Figure 3.1 shows the proportion of hospitalizations due to symptoms and ill-defined conditions by age group. Older adults and seniors represented the majority of the patients and the associated costs of these hospitalizations – at 53% of the unique patients and 57% of the estimated costs. Adults, 25 to 44, made up 25% of the patients and accounted for 20% of the costs. Youth, age 15 to 24, represented 11% of patients and accounted for 13% of the costs. Children under 15 years of age accounted for the 11% of the patients and 9% of the costs.

Figure 3.1 Hospitalizations for Symptoms & Ill-Defined Conditions - Proportion by Age



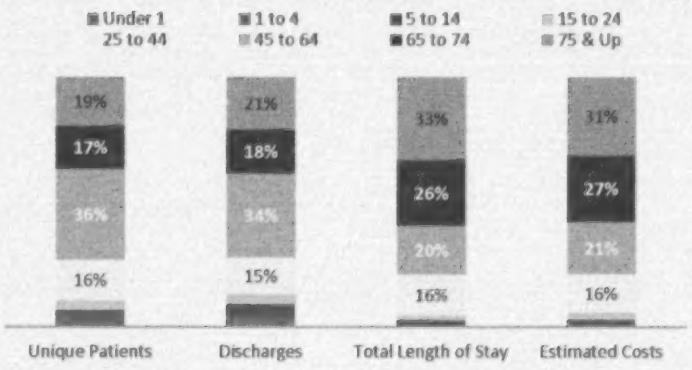
Patients with complaints of chest pains or trouble breathing accounted for 19% of the costs for symptoms and ill-defined conditions – at an estimated $695,000 per year. Patients with abdominal pain accounted for 17% of the ill-defined conditions costs – at a further $608,000 per year. Patients experiencing convulsions represented 6% of costs ($227,000), patients with nosebleeds and coughing up blood another 6% ($214,000) and patients in a semi-coma state (stupor) accounted for further 6% of costs ($208,000). The remaining costs were spread across a large number of patients experiencing various symptoms or exhibiting signs of an illness that was not diagnosed, including fever, extreme tiredness, shock, having fainted, unusual weight loss and irregular heartbeats.

Other factors

Between 2008/09 and 2010/11, there were 159 patients hospitalized annually, amounting to an estimated $3.3 million per year, where the patient's reason for being hospitalized was other than the immediate treatment for an injury or a disease. Often in these cases, patients were receiving aftercare for a previous operation or treatment, were hospitalized because their regular caregiver was unavailable, or were awaiting transfer to another more appropriate facility or service provider.

Figure 3.2 shows the proportion of hospitalizations due to other factors by various measures. Older adults and seniors represented the majority of the patients and the associated costs of these hospitalizations – at 73% of the unique patients and 79% of the estimated costs. Adults, 25 to 44, made up 16% of the patients and accounted for 16% of the costs. Youth, 15 to 24, and children under 15, accounted for the 11% of the patients and 6% of the costs.

Figure 3.2 Hospitalizations for Other Factors - Proportion by Age



Patients convalescing after surgery and other medical treatments, or patients receiving rehabilitative therapy and other post procedure after care, accounted for 39% of these costs – an estimated $1.3 million per year. Patients awaiting transfer to another facility or for appropriate services to be found, patients receiving respite care (normal care giver requires a break), and those patients where there was no one able to care for them at home accounted for 31% of costs – at $1.0 million per year. Palliative care accounted for a further 15% of costs – at $507,000 per year. The remaining costs were primarily for patients who were receiving care required to attend to artificial openings, such as a tracheostomy (tube thru throat into the windpipe for breathing), a gastrostomy (tube thru abdomen into the stomach for feeding), or a colostomy (bag to collect fecal waste, via a tube from the abdomen to the large intestine).

Chapter 4: Focus on Mental Health

Hospitalizations where the patient had a diagnosis of a mental health condition represent a significant proportion of overall hospitalizations (second highest after circulatory diseases).[5] Between 2008/09 and 2010/11, 18% of unique patients and discharges, 26% of bed days and 22% of costs involved at least one mental health issue.

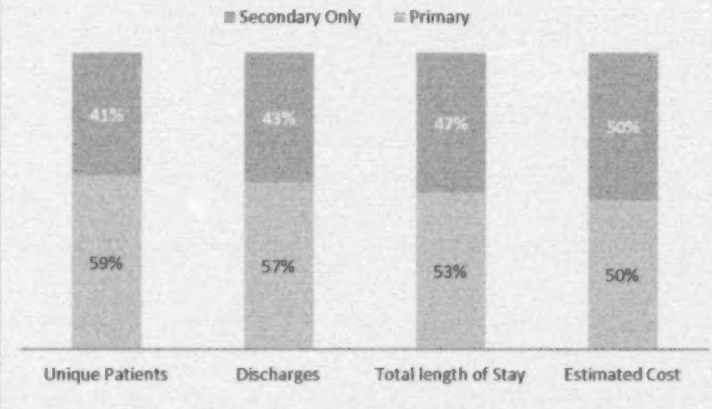
This chapter provides a profile of these hospitalizations, where a diagnosis of at least one mental health issue was recorded.[6] The diagnosis can be the primary reason or a secondary reason for hospitalization. Here the focus is on the type of mental health issue, the demographic profile of the patient (age, gender, ethnicity and residency), and other health issues that were involved or associated with the patient's hospitalization.

Mental health issues have been grouped into five categories: alcohol and drug abuse; mood disorders; schizophrenia and psychotic disorders; anxiety disorders; and, dementia and other organic disorders.[7] These five groupings represent over 94% of the inpatient mental health hospital activity when measured in terms of number of patients, number of discharges, total length of stay and estimated costs.

Overall Mental Health

Between 2008/09 and 2010/11, on an annual average basis, 627 patients were hospitalized 917 times, with at least one mental health issue recorded, resulting in 7,252 bed days at an estimated cost of $15.3 million. Between 50% and 59% of patients, discharges, length of stay and estimated costs were where the primary diagnosis was a mental health issue, and the remainder were where the mental health issue was a secondary issue (see Figure 4.1).

Figure 4.1 Proportion of Mental Health Hospitalizations - Primary versus Secondary Diagnosis



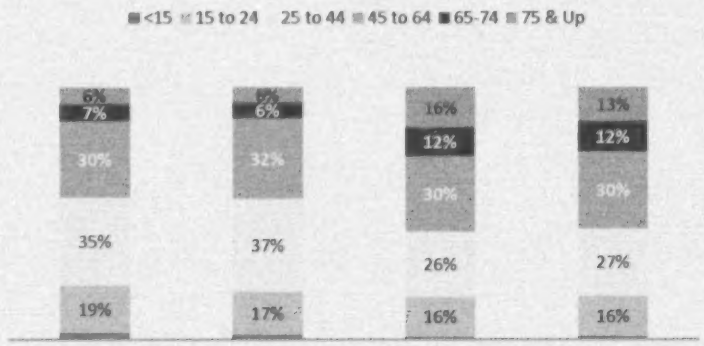
[5] Overall hospitalizations include all hospitalizations. Patients where the primary reason (main diagnosis) was for symptoms and ill-defined conditions, other factors or childbirth and pregnancy are part of overall hospitalizations. Any hospitalization can have a secondary diagnosis of a mental health issue.

[6] It is important to realize that a patient hospitalized for mental health issue may have more than one mental health issue, along with other issues, such as an injury, a respiratory or a digestive system issue.

[7] These five categories correspond to ICD-10 sub-chapters of mental and behavioural disorders. Full titles of these sub-chapters are listed in Appendix C.

Figure 4.2 shows the proportion of mental health related hospitalizations by age group. The population age 15 to 64 represented the majority of mental health related hospitalizations, at approximately 84% of the patients, 86% of the hospitalizations and 73% of the costs. Seniors, age 65 and up, represent approximately 13% of the patients but 25% of the costs. Children, under the age of 15, represent 3% of the patients and 1% of the costs.

Figure 4.2 Mental Health Hospitalizations - Proportion by Age



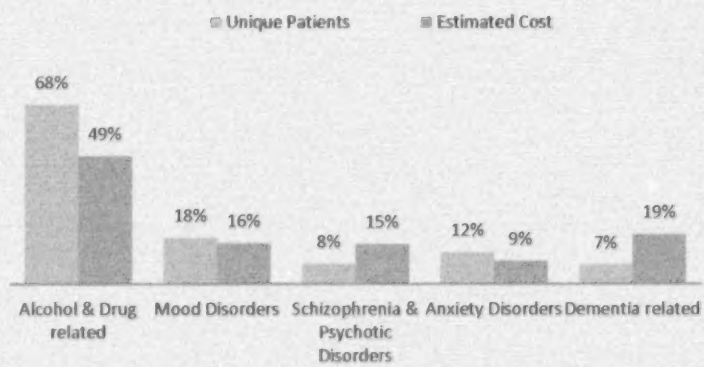
Males made up the 55% of patients and 59% of the costs of mental health hospitalizations, with females representing 45% of patients and 41% of costs.

In terms of ethnicity, the aboriginal population made up 68% of the patients and 62% of the cost of hospitalizations, with non-aboriginal population representing 25% of patients and 34% of the costs. The remaining hospitalizations and costs were made up by the population where their ethnicity was unknown.[8]

Yellowknife residents represented 41% of patients and 48% of costs, regional centre residents 30% of patients and 24% of costs, and residents of the smaller communities 28% of patients and 27% of costs of mental health hospitalizations.[9]

Figure 4.3 shows the proportion of patients and costs by the type of mental health issue. Alcohol and drug issues were involved in the majority of mental health hospitalizations, making up 68% of the patients and 49% of the costs. Dementia related issues were involved with 7% of the patients and 19% of the costs, mood disorders were involved in 18% of the patients

Figure 4.3 Proportion of Mental Health Related Hospitalizations by Type



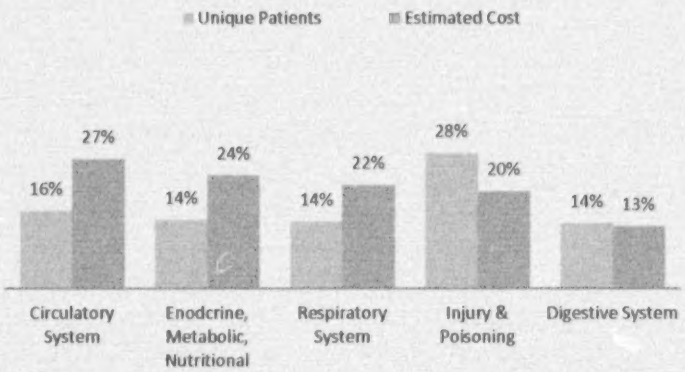
[8] See Appendix C for more information on ethnicity.

[9] Between 2008/09 and 2010/11, the proportion of the estimated NWT population by community type was 46.1% for Yellowknife, 23.4% for the regional centres, and 30.5% for the smaller communities. Utilization by community type, for each grouping of mental health conditions, is provided in Appendix B.

and 16% of the costs, schizophrenia at 8% of patients and 15% of the costs, anxiety related disorders at 12% of patients and 9% of costs, and dementia related issues were involved with 7% of the patients and 19% of the costs.

Figure 4.4 shows the proportion of patients and costs, for hospitalizations that involved both a mental health issue and another diagnosis. Sixteen percent of patients hospitalized with mental health issues also were diagnosed with at least one circulatory condition (heart attacks, high blood pressure, strokes), accounting for an estimated 27% of costs. Endocrine, nutritional and metabolic diseases accounted for 14% of the patients and 24% of the costs. The majority of these costs were with patients who also suffered from electrolyte and fluid imbalances and/or diabetes. Respiratory diseases (primarily chronic obstructive pulmonary diseases and pneumonias) were associated with 14% of the patients and 22% of the costs. Injuries were associated with 28% of patients at an estimated 20% of costs. Digestive issues were associated with 14% of patients and 13% of costs.

Figure 4.4 Proportion of Mental Health Related Hospitalizations with other conditions

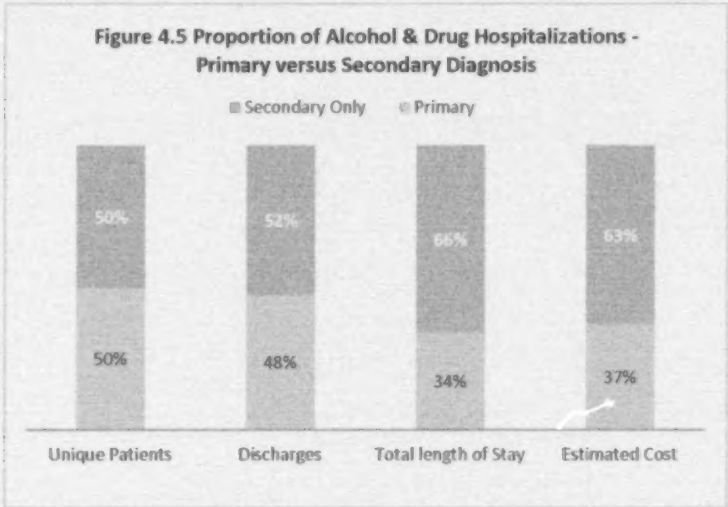


Alcohol and Drugs

Alcohol and drug related hospitalizations primarily involved patients who were extremely intoxicated, and/or were chronic abusers of alcohol and/or drugs. These patients often had other health issues that were either the primary or a secondary reason for their hospitalization. These other health issues were either directly related to the substance abuse (injury from a fall or from physical violence) or indirectly related, such as the long term abuse of alcohol contributing to cardiovascular diseases or liver disease.

Between 2008/09 and 2010/11, on an annual average basis, 429 patients were hospitalized 615 times, with one or more alcohol or drug related issue, resulting in 3,250 bed days at an estimated cost of $7.5 million. Between 37% and 50% of the patients, discharges, length of stay and estimated costs were where the primary diagnosis was an alcohol or drug issue, and the remainder were where the alcohol or drug diagnosis was a secondary issue (see Figure 4.5).

Figure 4.5 Proportion of Alcohol & Drug Hospitalizations - Primary versus Secondary Diagnosis



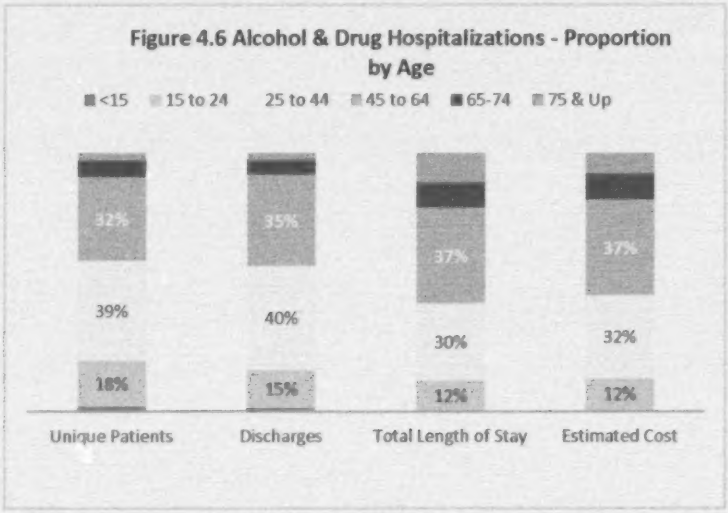
The majority of these hospitalizations were due to dependent or non-dependent alcohol abuse. Alcohol abuse was a diagnosis in 89% of the unique patients and associated with 87% of the costs. After alcohol, a diagnosis of cocaine/crack abuse was associated with 9% of the patients hospitalized and 11% of the estimated costs. A diagnosis of marijuana or hashish abuse was associated with 7% of the patients and 8% of costs. Other drugs, such as opiates (e.g., heroin) and sedatives (e.g., tranquillizers, anti-anxiety drugs, sleeping pills), were occasionally associated with the proportion of patients hospitalized and the associated costs (less than 3%).

Approximately 20% of patients with alcohol and drug related issues, also suffered from a concurrent (additional) mental health disorder (depression, schizophrenia, anxiety disorders, etc). These hospitalizations accounted for 23% of alcohol and drug related costs. The following sections will provide the proportion of particular mental health hospitalizations that also involved a diagnosis of alcohol or drug abuse.

Injuries and substance abuse are often related issues. Nearly a third of patients hospitalized, with an alcohol or drug diagnosis, also had suffered an injury. Injuries resulting from assaults were responsible for 28% of unique patients and 23% of costs, falls accounted for 24% of patients and 32% of costs, and

self-harm was associated with 23% of patients and 12% of cost. Other injuries were due such factors as motor vehicle accidents and complications related to surgical and medical procedures.

Figure 4.6 shows the proportion of alcohol and drug related hospitalizations by age group. The population age 15 to 64 represented the majority of alcohol and drug hospitalizations, at approximately 89% of the patients resulting in 81% of the costs. Seniors, age 65 and up, represent approximately 9% of the patients but 18% of the costs. Children, under the age of 15, represent 2% of the patients and 1% of the costs.



Men made up the 61% of patients and 66% of the costs of alcohol and drug hospitalizations, with women representing 39% of patients and 34% of costs.

In terms of ethnicity, aboriginal residents made up 77% of the patients and 72% of the costs of alcohol and drug hospitalizations, with non-aboriginals representing 17% of patients and 23% of the costs. The remaining hospitalizations and costs were made up by the population where their ethnicity was unknown.

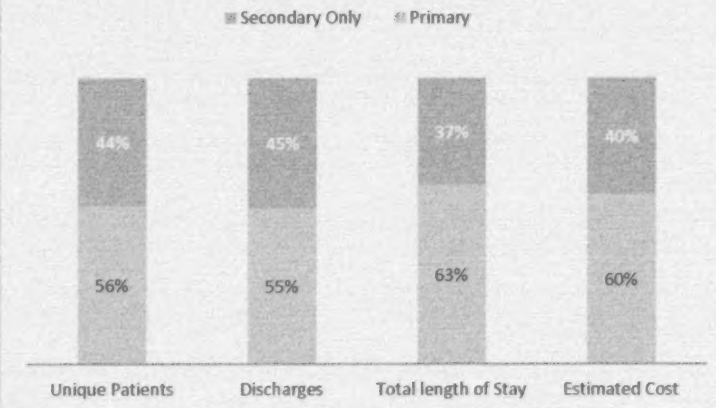
Yellowknife residents represented 39% of patients and 46% of costs, regional centre residents 31% of patients and 26% of costs, and residents of smaller communities 30% of patients and 28% of costs of alcohol and drug hospitalizations.

Mood Disorders

Mood disorders primarily include depressive and bi-polar (manic-depressive) disorders. Depression symptoms can include a prolonged lowering of mood, a reduction of energy, and a lack of interest in life. Symptoms can vary from mild to intense, over varying periods of time. Bi-polar disorders include varying combinations of the symptoms of depression and mania (e.g., at the same time or alternating). Mania, or manic state, is the prolonged feeling of extreme excitement (hyper, full of energy). Delusions can also be associated with the manic state. Most of the mood disorder related hospitalizations were to treat episodes of depression.

Between 2008/09 and 2010/11, on an annual average basis, 111 patients were hospitalized 141 times, resulting in 1,323 bed days at an estimated cost of $2.4 million with mood related disorders. Between 55% and 63% of patients, discharges, length of stay and estimated costs were where the mood disorder was the main reason for hospitalization, and the remainder were where it was a secondary issue (see Figure 4.7).

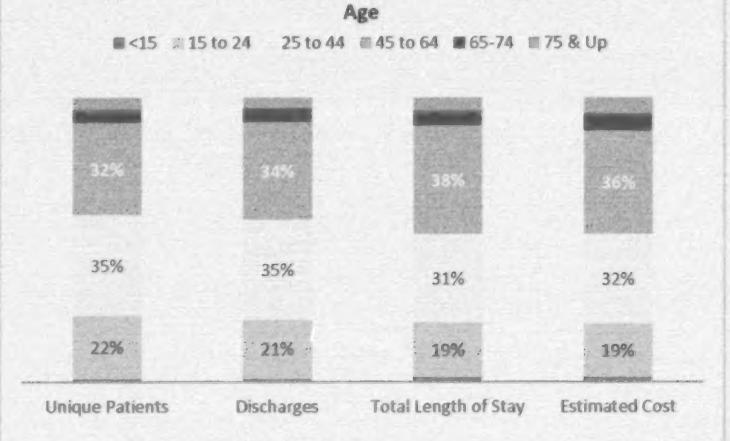
Figure 4.7 Proportion of Mood Disorder Hospitalizations - Primary versus Secondary Diagnosis



Alcohol and/or drug abuse played a role with 31% of the unique patients hospitalized due to a mood disorder, and contributed to 21% of the estimated costs of hospitalization.

Figure 4.8 shows the proportion of mood disorder hospitalizations by age group. Adults make up most of these hospitalizations. The population age 25 to 64 made up 68% of the patients and costs. Youth, age 15 to 24, made up 22% of the patients and 19% of the costs. Children, under age 15, represented 1% of the patients and 2% of the costs.

Figure 4.8 Mood Disorder Hospitalizations - Proportion by Age



Women made up the 60% of

patients and 63% of the costs of mood disorder hospitalizations, with men representing 40% of patients and 37% of costs.

In terms of ethnicity, aboriginal people made up 49% of the patients and 45% of the costs of mood disorder hospitalizations, with non-aboriginal people representing 42% of patients and 46% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnicity was unknown.

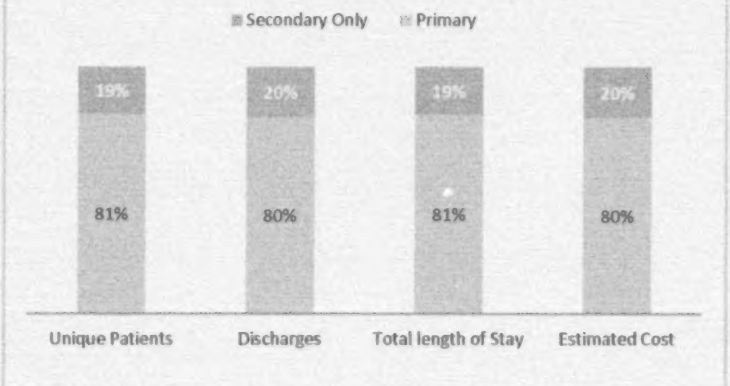
Yellowknife residents represented 49% of patients and 54% of costs, regional centre residents 30% of patients and 27% of costs, and residents of the smaller communities 22% of patients and 19% of costs of mood disorder hospitalizations.

Schizophrenia and Psychotic Disorders

Schizophrenia and psychotic disorders vary in their symptoms but include disturbances of thought, hallucinations (e.g., the hearing of voices that no one else can hear), paranoid delusions (e.g., believing that people are watching them/out to get them) and/or a belief in having abilities or powers beyond reality (e.g., ability to read minds).

Between 2008/09 and 2010/11, on an annual average basis, 48 patients were hospitalized 75 times, resulting in 1,356 bed days at an estimated cost of $2.3 million with schizophrenia and psychotic disorders. Between 80% and 81% of patients, discharges, length of stay and estimated costs were where the primary diagnosis was schizophrenia or a psychotic disorder, and the remainder were where schizophrenia or psychotic disorder was a secondary issue (see Figure 4.9).

Figure 4.9 Proportion of Schizophrenia & Psychotic Disorder Hospitalizations - Primary versus Secondary Diagnosis



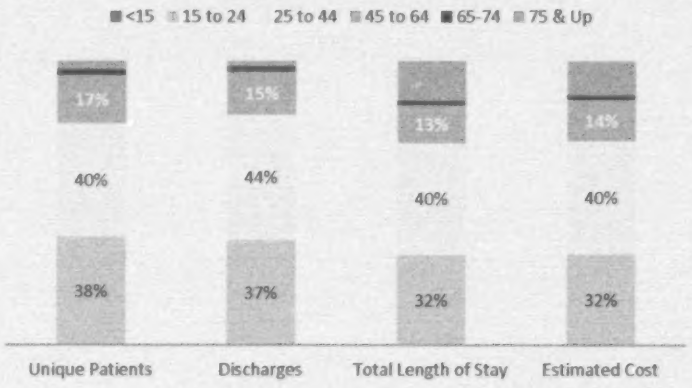
Alcohol and/or drug abuse played a role with 25% of the unique patients hospitalized due to schizophrenia and psychotic disorders, and 18% of the estimated hospitalization costs.

Figure 4.10 shows the proportion of schizophrenia and psychotic disorder hospitalizations by age group. Youth and younger adults made up most of these hospitalizations. The population age 15 to 44 made up 78% of the patients and 72% of the costs. Older adults, age 45 to 64, made up 17% of the patients and 14% of the costs. There were no children hospitalized for schizophrenia and delusional disorders.

Men made up the 59% of the patients and 60% of the costs of schizophrenia and psychotic disorder hospitalizations, with women representing 41% of patients and 40% of costs.

In terms of ethnicity, aboriginal residents made up 65% of the patients and 67% of the costs of schizophrenia and psychotic disorder hospitalizations, with non-aboriginals representing 26% of patients and 29% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnicity was unknown.

Figure 4.10 Schizophrenia & Psychotic Disorder Hospitalizations - Proportion by Age



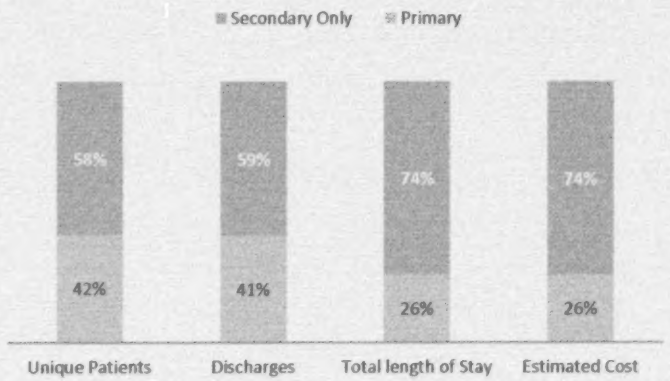
Yellowknife residents represented 56% of patients and 65% of costs, regional centre residents 14% of patients and 13% of costs, and residents of the smaller communities 30% of patients and 22% of costs of schizophrenia and psychotic disorder hospitalizations.

Anxiety Disorders

Anxiety disorders are a varied group of conditions, including, obsessive-compulsive disorders (recurrent thoughts, repetitive acts), phobia disorders (fears of situations, places), and reaction to stress. While many people may obsess about aspects of their lives, experience anxiety, react negatively to stress, patients requiring hospitalization, or having been diagnosed with such conditions, are experiencing them to such a degree that they are interfering with their ability to live their lives.

Between 2008/09 and 2010/11, on an annual average basis, 76 patients were hospitalized 86 times, resulting in 634 bed days at an estimated cost of $1.3 million with an anxiety disorder. The anxiety disorder was generally a secondary diagnosis in these hospitalizations. Between 58% and 74% of patients, discharges, length of stay and estimated costs were where the anxiety disorder was a secondary reason for hospitalization, and the remainder were where it was the primary issue (see Figure 4.11).

Figure 4.11 Proportion of Anxiety Disorder Hospitalizations - Primary versus Secondary Diagnosis

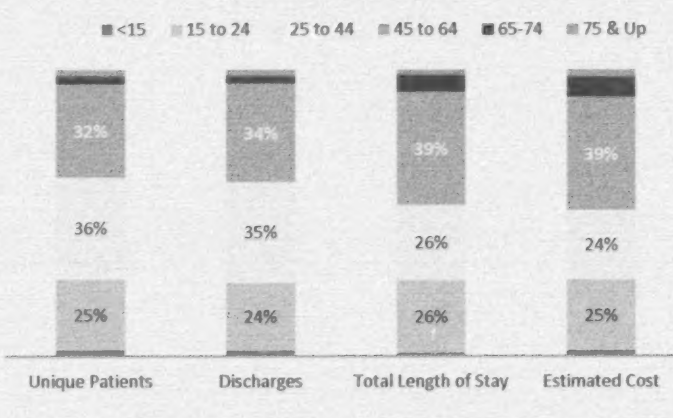


The majority of these hospitalizations were due to reactions to stressful events. Other hospitalizations were for issues ranging from panic disorders to anxiety mixed with depression.

Alcohol and/or drug abuse played a role in 27% of the unique patients hospitalized due to an anxiety disorder, and 16% of the estimated costs of hospitalization.

Figure 4.12 shows the proportion of anxiety disorder hospitalizations by age group. The population age 15 to 64 made up 93% of the patients and 88% of the costs.

Figure 4.12 Anxiety Disorder Hospitalizations - Proportion by Age



Seniors, age 65 and over, made up 5% of the patients and 10% of the costs. Children, under age 15, represented 2% of the patients and 2% of costs.

Women made up the 63% of both the patients and the costs of anxiety disorder hospitalizations, with men representing 37% of the patients and costs.

In terms of ethnicity, aboriginal residents made up 54% of the patients and 46% of the costs of anxiety disorder hospitalizations, with non-aboriginal residents representing 37% of patients and 46% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnicity was unknown.

Yellowknife residents represented 53% of patients and 55% of costs, regional centre residents 26% of patients and 24% of costs, and residents of small communities 21% of both the patients and the costs of anxiety disorder hospitalizations.

Dementia and Other Organic Brain Disorders

Dementia and other organic brain disorders involve the impairment of memory, thinking, understanding and judgement, and are generally degenerative (i.e. worsens over time). Organic brain disorders are due a brain disease or a significant brain injury. Dementia-related diseases are the most common organic brain disorders, and generally affect older seniors.

Between 2008/09 and 2010/11, on an annual average basis, 46 patients were hospitalized 58 times, resulting in 1,438 bed days at an estimated cost of $2.9 million with dementia and other organic disorders. In the majority of hospitalizations, the diagnosis of dementia or other organic brain disorder was secondary to the main reason for hospitalization, such as cardiovascular disease (see Figure 4.13).

Figure 4.13 Proportion of Dementia & Other Organic Disorder Hospitalizations - Primary versus Secondary Diagnosis

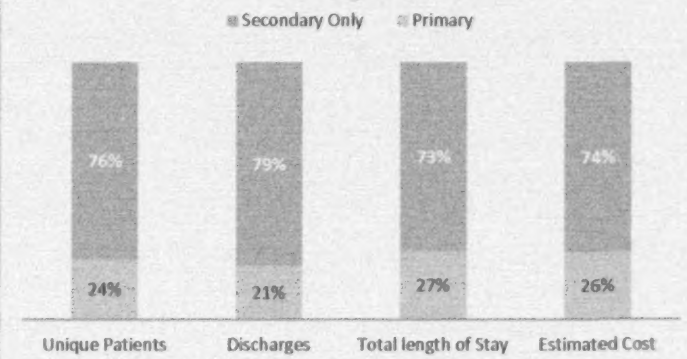
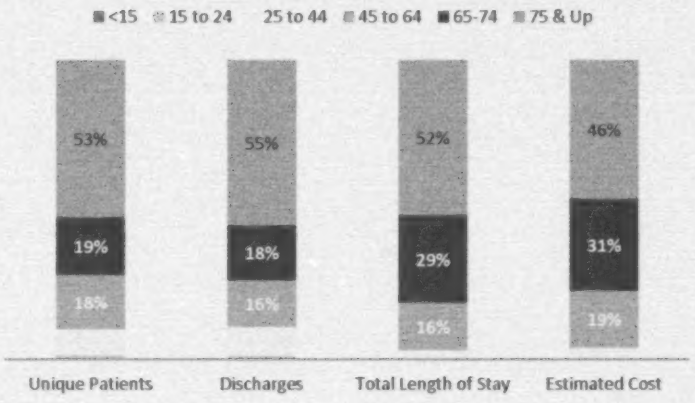


Figure 4.14 shows the proportion of dementia and other organic disorder hospitalizations by age group. Older seniors, age 75 and up, represented over half of the hospitalizations, at 53% of the patients, and 46% of the costs. The population age 65 to 74 represented 19% of the patients resulting in 31% of the costs. Older adults accounted for 18% of the patients and 19% of the costs. Adults and youth, age 15 to 44, accounted for 10% of the patients and 4% of the costs. There were no children hospitalized for an organic brain disorder.

Figure 4.14 Dementia & Other Organic Disorder Hospitalizations - Proportion by Age



Men made up the 55% of patients and 67% of the costs of dementia and other organic disorder hospitalizations, with women representing 45% of patients and 33% of costs.

In terms of ethnicity, aboriginal residents made up 55% of the patients and 47% of the costs of dementia and other organic disorder hospitalizations, with non-aboriginal residents representing 42% of patients and 51% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnic status was unknown.

Yellowknife residents represented 33% of patients and 48% of costs, regional centre residents 37% of patients and 25% of costs, and residents of the smaller communities 30% of patients and 26% of costs of dementia and other organic disorder hospitalizations.

Chapter 5: Focus on Diabetes

Hospitalizations for patients with diabetes represent a significant proportion of overall hospitalizations.[10] Between 2008/09 and 2010/11, diabetic patients, accounted for 9% of unique patients and 10% of discharges, 16% of bed days and 15% of costs involved.[11]

This chapter provides a profile of the hospitalizations where a diagnosis of diabetes was recorded. The diagnosis can be the primary reason but is usually a secondary issue related to another more serious condition (such as heart disease) causing the hospitalization. While the co-occurrence of disease can happen by chance some combinations are more likely to occur together because there is some association between them. There is an association with diabetes and the following: cardiovascular diseases (hypertension, heart failure and strokes) and chronic kidney disease.[12]

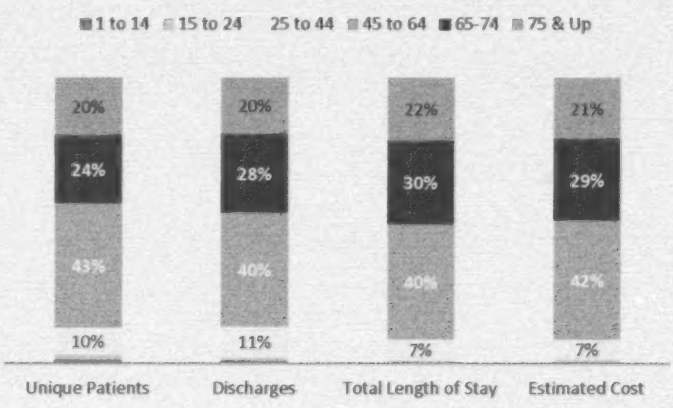
The chapter focuses on the diabetes hospitalizations by the other issues present and the various demographic characteristics (age, gender, and ethnicity) of the patients hospitalized.

Overall Diabetes

Between 2008/09 and 2010/11, on an annual average basis, 257 patients with diabetes were hospitalized 431 times, resulting in 3,767 bed days at an estimated cost of $8.7 million.[13]

Figure 5.1 shows the proportion of hospitalizations with a diabetes diagnosis by age group. Older adults and seniors make up most of these hospitalizations. The population age 45 and up made up 87% of the patients and 92% of the costs. Adults, age 25 to 44, made up 10% of the patients and 7% of the costs. Children and youth made up the remaining patients and costs.

Figure 5.1 Diabetes Hospitalizations - Proportion by Age



Women made up the 44% of patients and 43% of the costs of diabetes

[10] Overall hospitalizations include all hospitalizations, excluding childbirth and pregnancy.
[11] This chapter, unlike chapter three, examines all diagnoses recorded during a patient's hospitalization, as opposed to just the primary diagnosis.
[12] Tong, Bing, and Stevenson, Chris, *Comorbidity of cardiovascular disease, diabetes and chronic kidney disease in Australia*, (Canberra: Australian Institute of Health and Welfare, 2007), Cardiovascular Disease Series No. 28, p. 2.
[13] Diabetes hospitalization means any hospitalization where a diabetes diagnosis was recorded during the patient's stay.

hospitalizations, with men representing 56% of patients and 57% of costs.

In terms of ethnicity, aboriginal residents made up 45% of the patients and 41% of the costs of diabetes hospitalizations, with non-aboriginal residents representing 51% of patients and 57% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnic status was unknown.

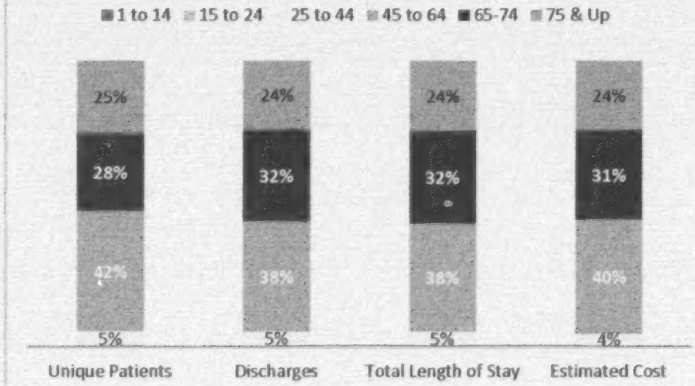
Yellowknife residents represented 44% of patients and 43% of costs, regional centre residents 34% of patients and 40% of costs, and residents of the smaller communities 22% of patients and 17% of costs of diabetes hospitalizations.

Diabetes and Cardiovascular Disease

Between 2008/09 and 2010/11, 69% of patients hospitalized with a diagnosis of diabetes also had at least one diagnosis of a cardiovascular disease (heart disease, hypertension, and stroke) and together they represented 77% of the total cost of diabetes related hospitalizations.

Figure 5.2 shows the proportion of hospitalizations with a combination of diabetes and a cardiovascular disease diagnosis by age group. Older adults and seniors make up most of these hospitalizations. The population age 45 and up represented 95% of the patients and 95% of the costs. Patients age 1 to 44 made up the remaining patients and costs.

Figure 5.2 Hospitalizations with Diabetes and Cardiovascular Disease Diagnoses - Proportion by Age



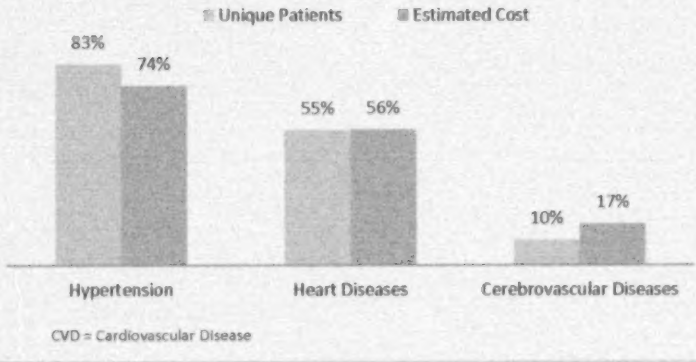
Women made up the 44% of patients and 43% of the costs of these hospitalizations, with men representing 56% of patients and 57% of costs.

In terms of ethnicity, aboriginal people made up 44% of the patients and 38% of the hospitalizations with a combination of diabetes and a cardiovascular disease diagnosis, with non-aboriginals representing 54% of patients and 60% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnicity was unknown.

Yellowknife residents represented 45% of patients and 42% of costs, regional centre residents 33% of patients and 42% of costs, and residents of the smaller communities 21% of patients and 16% of costs of these hospitalizations.

Figure 5.3 shows the proportion of patients and costs, where a diagnosis of diabetes and a cardiovascular disease, by type of cardiovascular disease (CVD). Hypertension (high blood pressure) was the most common CVD co-morbidity with diabetes, accounting for 83% of patients and 74% of the costs. Heart diseases (resulting in heart attacks, heart failure) accounted for 55% of patients and 56% of costs. Cerebrovascular diseases (resulting in strokes) accounted for 10% of patients and 17% of costs.

Figure 5. 3 Hospitalizations with Diabetes and Cardiovascular Disease Diagnoses - Proportion by Type of CVD



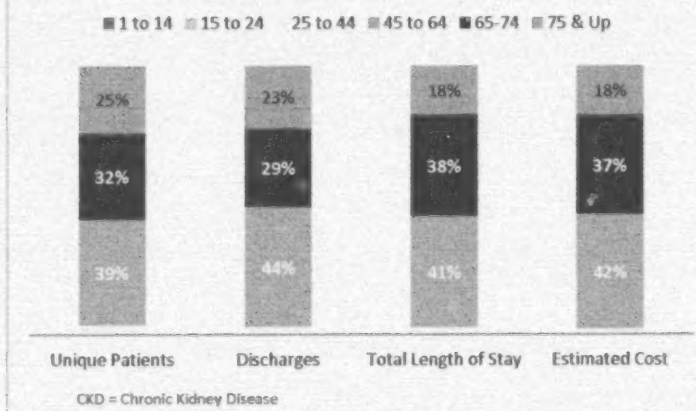
Diabetes and Chronic Kidney Disease

Between 2008/09 and 2010/11, 17% of patients hospitalized with a diagnosis of diabetes also had a diagnosis of a chronic kidney disease and together they represented 23% of the total cost of diabetes related hospitalizations.

Figure 5.4 shows the proportion of hospitalizations, where the patient had both a diagnosis of diabetes and chronic kidney disease, by age group. The population age 45 and up made up 96% of the patients and 98% of the costs.

Women made up 33% of patients and 37% of the cost of these hospitalizations, with men representing 67% of patients and 63% of costs.

Figure 5.4 Hospitalizations with Diabetes and CKD Diagnoses - Proportion by Age



Aboriginal residents made up 45% of patients and 51% of costs, and non-aboriginals made up 53% of patients and 48% of costs. The remaining patients hospitalized, and associated costs, were made up by patients where their ethnicity was unknown.

Yellowknife residents represented 42% of patients and 43% of costs, Regional Centre residents 44% of patients and 46% of costs, and residents of the smaller communities 14% of patients and 12% of costs of these hospitalizations.

Chapter 6: Focus on Chronic Kidney Disease

Hospitalizations where the patient had a diagnosis of a chronic kidney disease represent a sizeable proportion of overall hospitalizations.[14] Between 2008/09 and 2010/11, patients with chronic kidney disease, accounted for 4% of unique patients and 4% of discharges, 8% of bed days and 8% of costs involved.[15]

This chapter provides a profile of these chronic kidney disease hospitalizations.[16] Chronic kidney disease can be the primary reason for hospitalization but is often a secondary issue, related to another condition. While the co-occurrence of such diseases can happen by chance some combinations are more likely to occur together because there is some association between them. There is an association with chronic kidney disease and the following: cardiovascular diseases (hypertension, heart failure and strokes) and diabetes.[17]

This chapter focuses on chronic kidney disease hospitalizations by the other issues present and various demographic variables (age, gender, and ethnicity).

Overall Chronic Kidney Disease

Between 2008/09 and 2010/11, on an annual average basis, 127 patients with a diagnosis of a chronic kidney disease were hospitalized 193 times, resulting in 2,131 bed days at an estimated cost of $5.2 million.

Figure 6.1 Chronic Kidney Disease Hospitalizations - Proportion by Age

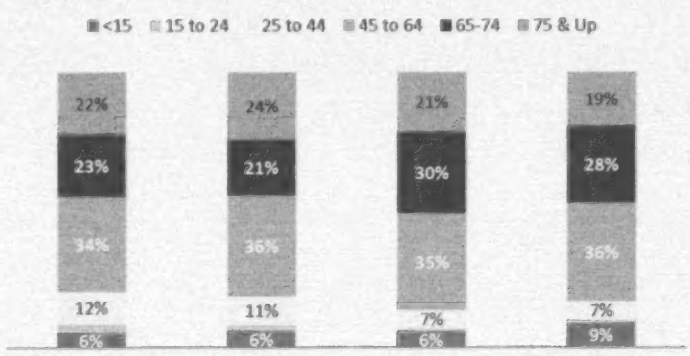


Figure 6.1 shows the proportion of hospitalizations with a chronic

[14] Overall hospitalizations include all hospitalizations.
[15] This chapter, unlike chapter three, examines all diagnoses recorded during a patient's hospitalization, as opposed to just the primary diagnosis.
[16] A hospitalization means any hospitalization where a chronic kidney disease diagnosis was recorded during the patient's stay. Chronic kidney disease diagnosis are based on definitions included in Bin Tong and Chris Stevenson, *Comorbidity of cardiovascular disease, diabetes and chronic kidney disease in Australia*, (Canberra: Australian Institute of Health and Welfare, 2007), Cardiovascular Disease Series No. 28, pp. 51-52.
[17] Tong and Stevenson, *Ibid*, p. 2.

kidney disease diagnosis by age group. Older adults and seniors make up most of these hospitalizations. The population age 45 and up made up 80% of the patients and 83% of the costs. Adults, age 25 to 44, made up 12% of the patients and 7% of the costs. Children and youth made up the remaining patients and costs.

Women made up the 41% of the patients and 38% of the costs of kidney disease hospitalizations, with men representing 59% of the patients and 62% of the costs.

In terms of ethnicity, aboriginal residents made up 54% of the patients and 50% of the costs of renal hospitalizations, with the non-aboriginal population representing 43% of patients and 48% of the costs. The remaining hospitalizations and costs were made up by patients where their ethnicity was unknown.

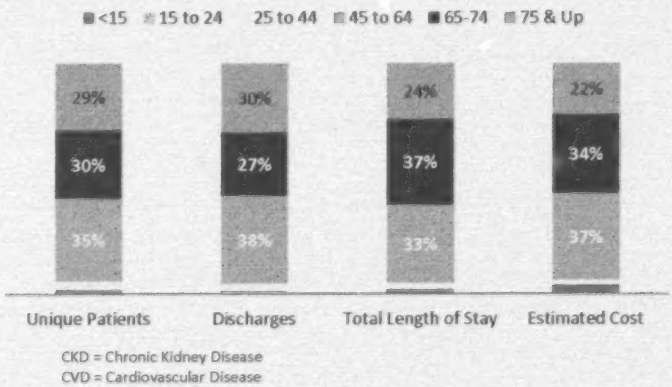
Yellowknife residents represented 39% of patients and 48% of costs, regional centre residents 35% of patients and 31% of costs, and residents of the smaller communities 26% of patients and 21% of costs of kidney disease hospitalizations.

Chronic Kidney Disease and Cardiovascular Disease

Between 2008/09 and 2010/11, 64% of patients hospitalized with a diagnosis of a chronic kidney disease also had at least one diagnosis of a cardiovascular disease, and together, they represented 74% of the total cost of chronic kidney disease related hospitalizations.

Figure 6.2 shows the proportion of hospitalizations by age where the patient had chronic kidney disease as well as a cardiovascular disease. Older adults and seniors make up most of these hospitalizations. The population age 45 and up made up 94% of both the patients and the costs. Patients under the age of 45 made up the remaining patients and costs.

Figure 6.2 CKD & CVD Hospitalizations - Proportion by Age



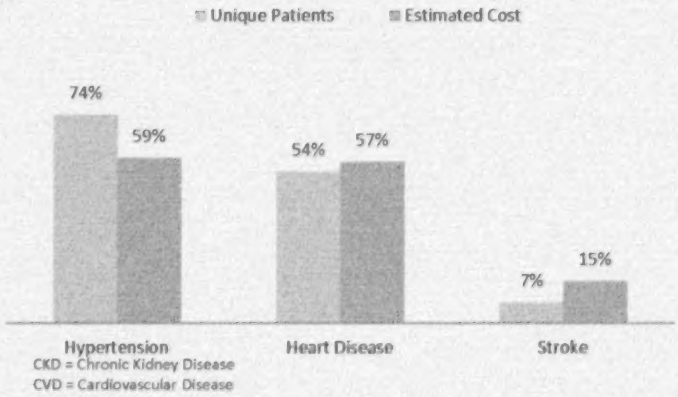
Women made up the 36% of the patients and 34% of the costs of hospitalizations where chronic kidney and cardiovascular diseases were identified, with men representing 64% of the patients and 66% of the costs.

The aboriginal population made up 47% of both the patients and the costs, with non-aboriginals representing 51% of both the patients and the costs. The remaining hospitalizations and costs were made up by patients where their ethnic status was unknown.

Yellowknife residents represented 42% of patients and 50% of costs, regional centre residents 36% of patients and 30% of costs, and residents of the smaller communities 22% of patients and 21% of costs of renal hospitalizations.

Figure 6.3 shows the proportion of patients and costs, with diagnoses of both a chronic kidney disease and a cardiovascular disease, by cardiovascular disease type. Hypertension (high blood pressure) was the most common CVD co-morbidity with chronic kidney disease, accounting for 74% of patients and 59% of the costs. Heart diseases (e.g., heart attacks, heart failure) accounted for 54% of patients and 57% of costs. Cerebrovascular diseases (e.g., strokes) accounted for 7% of patients and 15% of costs.

Figure 6.3 CKD & CVD Hospitalizations - Proportion by Type of CVD

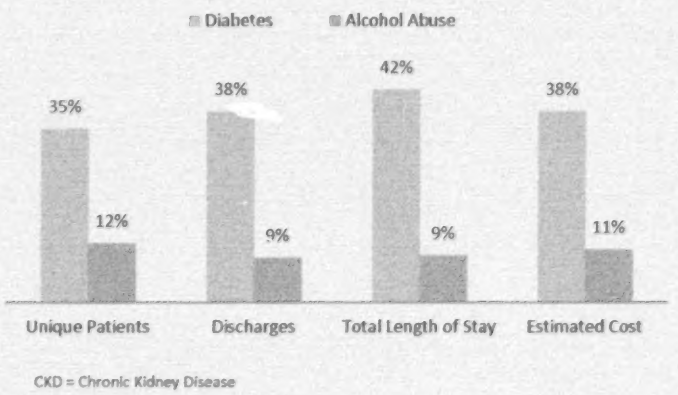


Chronic Kidney Disease and Diabetes and Alcohol Abuse

Between 2008/09 and 2010/11, 35% of patients hospitalized with chronic kidney disease also had diabetes and represented 38% of the total cost of chronic kidney disease related hospitalizations. The demographic breakdowns of chronic kidney disease and diabetes can be seen in chapter five.

During the same three years approximately 12% of chronic kidney disease patients also were abusing alcohol and/or had a history of alcohol abuse – accounting for 11% of chronic kidney disease hospitalization costs.

Figure 6.4 CKD Hospitalizations - Proportion with Diabetes and Alcohol Abuse



Chapter 7: Concluding Remarks

This report not only shows that the frequency and duration of hospitalizations change with age, but also how the causes of hospitalization change with age. By focusing further on hospitalizations due to select chronic conditions, this report brings a greater understanding of which segments of the population make up the majority of hospitalizations for mental health issues, diabetes and chronic kidney disease. Many hospitalizations are due to conditions that are largely preventable through healthy lifestyle choices and/or seeking primary care services before a condition progresses to the point of requiring hospitalization.[18]

At the beginning of life, one of the main reasons for hospitalization is being born premature and/or having a low birth weight. Tobacco use, and/or exposure to second-hand smoke, while pregnant increase the risk of premature/low birth weight delivery.[19] Such infants are at an increased risk of other health problems, including asthma, pneumonia, bronchiolitis, high blood pressure, renal disease, and heart disease, in their first year but also later in life.[20]

Acute respiratory conditions, primarily bronchiolitis and pneumonia, are also major drivers of the hospitalization of infants. To some extent respiratory problems in infants may be caused and/or exacerbated by environmental exposure to second-tobacco smoke, poor ventilation and/or overcrowding in houses.[21] Furthermore, infants and children having contracted bronchiolitis are at a greater risk of developing chronic lung problems later in life.[22]

Hospitalizations to fix congenital anomalies (such as heart defects) also are prominent. Insufficient nutrient (e.g., folic acid) intake while pregnant[23] and/or maternal consumption of alcohol and/or drugs can contribute to these.[24]

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[18] It is recognized that the causes of disease are many and are not always modifiable (e.g., genetics and age). The concluding remarks are focused on some of the main factors that are modifiable.

[19] Arne Ohlsson and Prakeshkumar Shah, *Determinants and Prevention of Low Birth Weight: A Synopsis of the Evidence* (Institute of Health Economics, 2008), ch 9.

[20] Bjorn Egil Vikse, et al., "Low Birth Weight Increase Risk for End-Stage Renal Disease" *in Journal of the American Society of Nephrology*, 2008, Vol. 19, pp. 151 to 157.

[21] Thomas Kovesi, et al., "Indoor air quality and the risk of lower respiratory tract infections in young Canadian Inuit children" in *CMAJ*, July 17, 2007, 177(2), pp. 155-160 and Kovesi, et al, "Heat recovery ventilators prevent respiratory disorders in Inuit children" in *Indoor Air*, December 2009, Vol. 19, No. 6, pp. 489-499.

[22] Hans-Olav Fjaerli, et al., "Acute bronchiolitis in infancy as a risk factor for wheezing and reduced pulmonary function by seven years in Akershus County, Norway" in *BMC Pediatrics*, 2005, Vol. 5, No. 31.

[23] Raluca Ionescu-Ittu, et al., "Prevalence of severe congenital heart disease after folic acid fortification of grain products: time trend analysis in Quebec, Canada" in *British Medical Journal*, 2009, http://www.bmj.com/content/338/bmj.b1673, and Lynn B. Bailey and Robert J. Berry, "Folic acid supplementation and the occurrence of congenital heart defects, orofacial clefts, multiple births, and miscarriage" in *American Journal of Clinical Nutrition*, May 2005, Vol. 81. No. 5, pp. 12135 to 12175.

[24] http://www.nlm.nih.gov/medlineplus/ency/article/001114.htm, http://www.mayoclinic.com/health/congenital-heart-defects/DS01117/DSECTION=risk-factors

As infants reach the toddler years, the frequency of hospitalization drops dramatically while the reasons for hospitalization change slightly. Hospitalizations for respiratory issues become more prominent and those related to congenital defects become less common.

As toddlers grow into young children the frequency of hospitalization drops again, while the reasons for hospitalization change again with injuries rising in prominence. Injury hospitalizations, for this age group, are primarily due to transportation accidents (e.g., collisions with pedestrian and motorcycle accidents) and falls.

Into the teen and young adult years, the frequency of hospitalization increases and the reasons for hospitalization change dramatically. Mental health issues and injuries are responsible for two-thirds of the hospitalizations of youth. Almost a quarter of the mental health issues are primarily due to alcohol and drug abuse – issues that can generally be dealt with outside of a hospital setting. Many of the injuries are due to assaults and self-harm – often with substance abuse and other mental health issues playing a factor.

With adults, 25 to 44, the frequency of hospitalizations increases slightly, relative to the population age 15 to 24, and mental health issues and injuries remain prominent – representing over 40% of hospitalizations and estimated costs. Substance abuse becomes the largest mental health issue, and assault remains the top cause of injury hospitalizations.

Into middle age, the frequency of hospitalization continues to increase and the type of conditions change. Injuries (assaults and falls) and mental health issues (primarily alcohol and drug abuse) are still prominent, while cardiovascular and chronic obstructive pulmonary diseases begin to emerge. Poor diet, alcohol abuse, smoking, and inactive lifestyles all contribute to diseases of the heart and veins that can eventually result in heart attacks and strokes. Smoking, as well as long-term exposure to second hand smoke can cause of chronic obstructive pulmonary disease. Liver disease due to long-term alcohol abuse is also a problem that emerges as a reason for hospitalizations of older adults.

For seniors, the chance of being hospitalized increases dramatically. Circulatory disease becomes the number one reason for hospitalization, and cancer becomes one of the top five reasons for being hospitalized. Colorectal, throat and lung cancers are the leading types of cancers when measured by the estimated cost of hospitalization. Colorectal cancer, while not always preventable, has been linked to lifestyle issues such as physical inactivity, low fruit and vegetable consumption, diet low in fibre and high in fat, being overweight, excessive alcohol consumption and tobacco use.[25] Lung and throat cancers are often a result of tobacco use and/or exposure to second hand tobacco smoke. Alcohol abuse, as well as some types of the human papillomavirus (HPV) – which can be vaccinated against – can also cause some throat cancers.[26]

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[25] http://www.cdc.gov/cancer/colorectal/basic_info/risk_factors.htm

[26] Torbjorn Ramqvist and Tina Dalianas, "Oropharyngeal Cancer Epidemic and Human Papillomavirus" in *Emerging Infectious Disease* November 2010 Vol. 16, No. 11, pp. 1671 – 1677, http://wwwnc.cdc.gov/eid/article/16/11/pdfs/10-0452.pdf

Other issues decline as reasons for hospitalization, such as mental health issues - with the exception of dementia related conditions for older seniors. Injury hospitalizations remain prominent but change in nature with falls being responsible for over 60% of the injury hospitalization costs for seniors - age 75 and over.

When particular chronic health conditions are examined in detail, it becomes readily apparent that certain segments of the population are more at risk to be hospitalized, as well as more likely to consume more hospital resources when hospitalized, than are others.

The demographic profile of the hospitalized patients, and the resources used to treat them, varies from one group of mental health issues to the next. Mental health issues are often multi-factored, where the patient can suffer from more than one condition concurrently (e.g., alcoholism and depression). Moreover, the mental health issue(s) can also be related, though secondary, to a more immediate reason for hospitalization such as an injury due to an assault or a fall.

Alcohol and drug abuse is the largest mental health issue resulting in hospitalization, affecting youth to seniors, men more so than women, the aboriginal population more so than the non-aboriginal population, and the population outside of Yellowknife more so than inside Yellowknife. When measured by the estimated cost of hospitalization, alcohol and drugs are more often a secondary factor than the primary reason for admission.

Hospitalizations for mood disorders (primarily depression) tend to be concentrated in the adult years. Women more so than men are affected by mood disorders, though the aboriginal population slightly less so than the non-aboriginal population, and residents of Yellowknife more so than those in the rest of the NWT.

With schizophrenia and other psychotic disorders, youth and younger adults make up most of the hospitalizations, males slightly more so than females, aboriginal people more so than non-aboriginal people and residents of Yellowknife more so than residents outside of Yellowknife. When people suffering from schizophrenia are hospitalized, it is generally the primary reason for the hospitalization. Some schizophrenia hospitalizations also involve alcohol and/or drug abuse.

Anxiety disorder hospitalizations are concentrated in the youth and adult years. Women more so than men are affected by anxiety disorders, as are aboriginal residents compared to non-aboriginal residents and residents of Yellowknife more so than residents of the rest of the NWT.

Alcohol abuse, and to a lesser extent drug abuse, are common themes in mental health related hospitalizations. Much of the abuse stems from addiction, and the deep rooted mental health issues of the patient. Addressing these issues outside of a hospital setting, and thereby reducing the severity and the frequency of substance abuse, will in the long-run reduce hospitalizations for mental health issues. Also addressing addiction and other mental health issues will reduce the hospitalizations due to the

behaviour of extremely intoxicated people over the short term (e.g., injuries from falls, self-harm and assault), and the physically damaging effects of alcohol and drug abuse over the long term (e.g., cardiovascular diseases).

Hospitalizations where the patient suffers from diabetes result in a significant consumption of hospital resources. Diabetes is more often a secondary reason for a hospitalization, than the primary reason. In the majority of diabetes hospitalizations, the patient is also suffering from a cardiovascular disease (hypertension and/or heart disease).

Older adults and seniors, age 45 and over, made up the majority of the diabetes hospitalizations. Hospitalizations of patients with diabetes tend to be concentrated amongst men slightly more so than women, the non-aboriginal population more so than the aboriginal population, residents of the regional centres relative to those from Yellowknife or the smaller communities.

Modifiable risks factors for diabetes include being overweight, a poor diet, physical inactivity and smoking. Primary care level interventions with patients at risk of becoming diabetic, and those with diabetes, can help to reduce the incidence of the disease as well as manage the condition before it leads to other health problems. These other health problems include heart disease, chronic kidney disease, blindness, nerve damage, reduced ability to fight infections, depression, and stress.[27] Not only can these health problems lead to a reduction in the quality of life, but they can also result in lengthy hospital stays and potentially premature death.

Hospitalizations where the patient suffers from chronic kidney disease also result in a significant consumption of hospital resources. Chronic kidney disease patients also often suffer from other health conditions, such as cardiovascular disease and diabetes. Older adults and seniors make up the majority of chronic kidney disease hospitalizations. Other demographic analysis, showed that men are hospitalized more often than women, aboriginal patients slightly more so than non-aboriginal patients, and residents of regional centres more so of the rest of the NWT.

The modifiable risk factors for chronic kidney disease, in addition to those for diabetes, include heavy alcohol consumption. Medical risk factors, if not treated and/or controlled, include: diabetes, high blood pressure, urinary tract infections, kidney and urinary stones and streptococcal infections.[28] Primary care interventions with patients at risk for chronic kidney disease can help to reduce the chance of patients developing chronic kidney disease, reducing the need for dialysis, expensive transplants, hospitalizations and unnecessary deaths.

The *NWT Hospitalization Report* reinforces the message that many of the hospitalizations of NWT residents are preventable through healthy lifestyle choices. The NWT population scores poorly on a

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[27] Health Canada, *Healthy Canadians – A Federal Report on Comparable Health Indicators, 2010*, (2011), p. 133.
[28] Bin Tong and Chris Stevenson, *Comorbidity of cardiovascular disease, diabetes and chronic kidney disease in Australia*, (Canberra: Australian Institute of Health and Welfare, 2007), Cardiovascular Disease Series No. 28, p. 3.

number of behaviours: smoking, alcohol abuse, obesity/overweight, low fruit and vegetable intake, and physical inactivity.[29] Any reduction in the high rate of these negative lifestyle behaviours will eventually result in a reduction in the incidence of chronic and other diseases, thereby reducing the amount of preventable hospitalizations.

[29] NWT Department of Health and Social Services, *NWT Health Status Report*, August 2011.

Appendix A: Glossary[30]

Abscess: A collection of pus that has formed on any part of the body surrounded by inflammation (swelling).

Alcohol and Drug Psychoses: Hallucinations and delusions associated with alcohol and/or drug use, generally resulting from chronic use or extreme abuse.

Angina: Chest pain that occurs if an area of the heart muscle does not get enough oxygen rich blood and is usually a symptom of heart disease.

Anxiety Disorder: Is a general term covering a number of disorders characterized by excessive worrying, uneasiness, apprehension and fear about situations and future events. Anxiety disorders include post-traumatic stress disorders, adjustment disorders, panic disorders, and obsessive-compulsive disorders

Arrhythmia: A heart rate (heart beat) that is too fast, too slow or irregular.

Arthritis: Inflammation of a joint (intersection of one or more bones, e.g., ankle, knuckles, knees, hips etc) characterized by stiffness, swelling and pain. There are many types of arthritis, including osteoarthritis and rheumatoid arthritis.

Asthma: A chronic inflammation of the airways (bronchial tubes) causing breathing difficulty.

Bed Day: One overnight or same day stay in one hospital bed.

Bipolar Disorder: A manic-depressive disorder, where manic and depressive symptoms are frequently alternated or separated by periods of relative normality.

Bronchitis: Inflammation and swelling of the bronchi – large air tubes leading from the trachea (wind pipe) to the lungs that convey air to and from the lungs.

Cardiovascular: Heart and blood vessels.

Crohn's Disease: A type of inflammatory bowel disease. It usually affects the intestines, though it can occur anywhere along the digestive tract.

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[30] The definitions in this glossary meant to be general and simple. The definitions come from the following the following sources: www.merck.com, www.medterms.com, www.medlineplus.gov, www.MedicineNet.com, www.eMedicine.com, Dorland's Illustrated Medical Dictionary, 28th Edition (1981), and the World Health Organization, International Statistical Classification of Diseases and Related Health Problems. www.nber.org/mortality/1996/docs/ch05.txt.

Cleft lip/palate: Is a birth defect where the tissue that forms the roof of the mouth and upper lip do not join before birth. The problem can range from a small notch in the lip to a groove that runs into the roof of the mouth and nose.

Cellulitis: An acute inflammation of the skin and/or tissue underneath the skin (fatty tissue) caused by a bacterial infection.

Circulatory Diseases: Diseases of the circulatory system, including heart disease and stroke.

Circulatory System: Those parts of the body involved in the circulation of blood (heart, arteries, veins and other blood vessels).

Colitis: Inflammation of the colon (large intestine).

Congenital Anomalies: A malformation of a body part (e.g., face, mouth, heart, and/or spine) that is present at birth.

Cystic fibrosis: A genetic disease affection children and young adults. This disease primarily affects the lungs and digestive system.

Decubitus ulcers: Also known as pressure sores or bedsores, are areas on the skin that have been under prolonged pressure (e.g., patient has been restricted to bed, wheel chair) resulting in the blood supply to the area being restricted. The ulcers range from the superficial, skin layer deep, to those that are deep into the muscle and even bone.

Delusion: A strong belief despite overwhelming evidence contradicting the belief. For example, the belief that someone can read your mind.

Dementia: A loss of brain function that occurs with certain diseases (such as Alzheimer's disease) and results in the impairment of memory, thinking understanding and judgement.

Demographics: The characteristics of a population described in terms of size, distribution, composition (e.g., age, gender, and ethnicity) and vital statistics.

Depressive Disorder: A mood disorder characterized by feelings of sadness and despair. Symptoms can include feelings of hopelessness, changes in eating patterns, disturbed sleep, constant tiredness and thoughts of death or suicide.

Digestive System: A general term referring to those parts of the body involved in digesting food (mouth, throat, stomach, intestines and anus).

Discharge: A stay (visit) in a particular hospital, for one or more days, by an individual patient.

Diverticular Disease: Small pouches in the wall of the intestine that bulge out. These pouches, referred to as diverticula, can become inflamed and infected leading to serious health problems.

Endocrine: The system of glands that make and secrete hormones through the blood stream to the organs.

Gastritis: Inflammation of the stomach.

Gastroenteritis: Inflammation of the stomach and intestine.

Genitourinary System: A general term referring to the genitals and those parts of the body involved in urination (e.g., kidneys and the urethra).

Glomerulonephritis: A type of kidney disease that damages the part of your kidneys that helps filter waste and fluids from the blood.

Hallucination: Seeing or hearing something that does not exist.

Hernia: A hernia is an opening or weakness in the muscular structure of the wall of the abdomen. This defect causes a bulging of the abdominal wall. The most common location for hernias is in the groin (inguinal) area.

Histiocytosis: A group of conditions that involve the abnormal increase in the number of immune cells called histiocytes.

Hypertension: High blood pressure.

Inflammation: The general way in which the body reacts to infection, irritation or other injury, the key features being redness, warmth, swelling and/or pain.

Jaundice: Yellow colour of the skin or eyes. The yellow colour comes from bilirubin, a by-product caused by the body replacing old red blood cells.

Mania: A mood disorder characterized by a persistent state of elation, overwhelming excitement, irritable mood, arousal.

Metabolic Diseases: Conditions affecting the metabolism – all the physical and chemical processes in the body that convert or use energy, including body temperature control, digestion and processing of nutrients, and the elimination of waste.

Mood Disorders: A range of disorders ranging from depression to mania, or a combination of the two (bi-polar).

Musculoskeletal System: A general term describing the bones and muscles of the human body.

Neurotic Disorder: A general term referring to a group of disorders, including anxiety, obsessive compulsive disorders, and adjustments/reactions to stress events.

Osteoarthritis: A type of arthritis caused by inflammation, breakdown and eventual loss of cartilage in the joints. Cartilage is a protein substance that serves as a "cushion" between the bones of the joints.

Pneumonia: An inflammation of the lungs caused by an infection. Many different organisms (life forms) can cause it, including bacteria, viruses, and fungi. Pneumonia can range from mild to severe, even fatal. The severity generally depends on the type of organism causing pneumonia, as well as your age and underlying health.

Pneumonitis due to solids and liquids: Non-infectious inflammation of the lungs caused by breathing in solid or liquid substances, food (vomit) or blood – often the result of another health issue.

Psychosis: A general term to describe a loss of contact with reality. Hallucinations and/or delusions are psychotic symptoms.

Respiratory System: Parts of the body involved in the process breathing (nose, throat and lungs).

Rheumatoid Arthritis: Is an autoimmune disease that causes chronic inflammation of the joints, and can also cause inflammation of the tissue around the joints as well as other organs in the body. Autoimmune diseases are illnesses where the body tissues are mistakenly attacked by the body's own immune system.

Schizophrenia: A condition characterized by various symptoms in varying degrees, including disturbances of thought, hallucinations (such as the hearing of voices), paranoid delusions (people are watching them/ out to get them) and/or belief in having abilities or powers beyond reality.

Septicaemia: A serious bacterial infection of the blood.

Tonsillitis: An inflammation of the tonsils.

Visit: A stay (discharge) at a particular hospital, for one or more days.

Appendix B: Data Tables – Overall

Table 1.1
Hospitalizations - Various Metrics (Part 1)
2008/09 to 2010/11 Annual Average

Variables	Unique Patients			Discharges (Visits)			Length of Stay (Bed Days)			Estimated Expenditure		
	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male
Total	3,533	2,097	1,436	5,092	2,883	2,209	27,549	13,536	14,013	$ 68,556,527	$ 34,331,682	$ 34,224,845
Age Group												
Under 1	135	56	79	181	72	109	1,048	452	596	$ 3,305,934	$ 1,473,960	$ 1,831,974
1 to 4	119	52	67	153	66	87	487	199	289	$ 1,528,906	$ 622,063	$ 906,842
5 to 14	126	66	60	163	77	87	541	234	307	$ 1,535,087	$ 701,662	$ 833,425
15 to 24	574	411	163	721	507	214	2,844	1,666	1,178	$ 7,204,262	$ 4,362,530	$ 2,841,731
25 to 44	1,204	870	334	1,603	1,130	473	6,260	3,948	2,313	$ 16,266,010	$ 10,592,629	$ 5,673,381
45 to 64	875	418	457	1,344	617	728	8,115	3,425	4,690	$ 20,062,222	$ 8,525,053	$ 11,537,169
65 to 74	266	118	148	477	202	275	3,861	1,604	2,256	$ 9,301,230	$ 3,722,083	$ 5,579,147
75 & Up	255	123	132	449	213	237	4,392	2,009	2,383	$ 9,350,696	$ 4,331,702	$ 5,018,994
Ethnicity												
Aboriginal	2,000	1,230	771	2,945	1,731	1,214	15,211	8,028	7,182	$ 37,750,064	$ 20,268,074	$ 17,481,990
Non-Aboriginal	1,328	764	564	1,897	1,026	871	10,679	4,911	5,768	$ 26,205,314	$ 12,405,018	$ 13,800,296
Unknown	205	104	101	250	127	124	1,659	597	1,062	$ 4,601,150	$ 1,658,591	$ 2,942,559
Community Type												
Yellowknife	1,476	892	584	2,061	1,195	866	11,482	5,798	5,684	$ 28,621,500	$ 15,011,777	$ 13,609,722
Regional Centres	1,007	577	430	1,566	852	714	7,732	3,624	4,108	$ 19,233,659	$ 9,213,084	$ 10,020,575
Smaller Communities	1,072	639	434	1,453	832	621	8,281	4,096	4,185	$ 20,599,417	$ 10,074,203	$ 10,525,214
H&SS Authority												
Beaufort Delta	686	429	257	998	598	400	4,273	2,283	1,990	$ 10,721,266	$ 5,635,038	$ 5,086,228
Deh Cho	219	126	94	294	166	129	1,932	986	947	$ 4,708,012	$ 2,251,657	$ 2,456,355
Fort Smith	270	151	119	419	219	200	1,941	1,016	925	$ 4,773,108	$ 2,569,337	$ 2,203,771
Hay River	339	180	159	554	275	279	3,546	1,412	2,135	$ 8,800,008	$ 3,580,718	$ 5,219,291
Sahtu	189	107	82	242	133	109	1,586	679	907	$ 3,726,702	$ 1,636,945	$ 2,089,756
Tlicho	285	175	110	382	221	160	1,914	903	1,011	$ 5,049,230	$ 2,445,934	$ 2,603,296
Yellowknife	1,563	939	625	2,190	1,265	924	12,303	6,241	6,062	$ 30,676,249	$ 16,179,434	$ 14,496,815

Table 1.2
Hospitalizations - Various Metrics (Part 2)
2008/09 to 2010/11 Annual Average

Variables	Unique Patients			Discharges (Visits)			Length of Stay (Bed Days)			Estimated Expenditure		
	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male
Location												
In the NWT	3,096	1,885	1,212	4,227	2,467	1,760	21,423	10,784	10,639	$ 55,444,310	$ 28,667,380	$ 26,776,930
Outside of the NWT	721	345	376	866	416	449	6,126	2,752	3,374	$ 13,112,218	$ 5,664,302	$ 7,447,915
Diseases and Conditions												
Infectious & Parasitic	103	50	54	114	56	58	792	360	432	$ 1,751,049	$ 809,339	$ 941,710
Cancers	169	99	70	215	122	93	1,823	881	942	$ 4,268,974	$ 2,121,829	$ 2,147,145
Blood Related	35	16	19	42	18	24	384	103	281	$ 901,636	$ 257,483	$ 644,152
Endocrine, nutritional and metaboli	89	41	48	113	53	60	799	331	468	$ 1,884,221	$ 796,212	$ 1,088,009
Mental Health	369	166	202	519	234	285	3,840	1,687	2,153	$ 7,735,203	$ 3,436,135	$ 4,299,068
Nervous System	72	34	38	91	44	48	724	278	447	$ 1,657,196	$ 662,971	$ 994,226
Eye and Adnexa	23	11	13	29	12	16	59	27	32	$ 92,050	$ 45,016	$ 47,034
Ear and Mastoid process	14	7	7	15	8	7	30	18	12	$ 83,340	$ 42,794	$ 40,546
Circulatory System	266	98	168	367	135	232	2,339	857	1,483	$ 6,127,567	$ 2,130,550	$ 3,997,017
Respiratory System	413	198	215	511	241	271	2,495	1,095	1,400	$ 6,538,083	$ 2,883,967	$ 3,654,116
Digestive System	415	215	199	514	266	247	2,542	1,282	1,260	$ 6,422,069	$ 3,324,045	$ 3,098,024
Skin Related	65	27	38	71	28	43	662	182	480	$ 1,397,311	$ 378,768	$ 1,018,543
Musculoskeletal	157	80	77	172	89	83	864	529	335	$ 2,730,494	$ 1,524,117	$ 1,206,376
Genitourinary	199	142	57	221	153	67	891	514	377	$ 2,405,219	$ 1,586,781	$ 818,438
Perinatal Period	37	16	21	45	18	27	382	172	210	$ 1,274,409	$ 548,309	$ 726,100
Congenital Anomalies	27	13	14	32	14	18	284	142	142	$ 990,444	$ 468,337	$ 522,108
Injuries & Poisonings	489	203	286	572	237	335	3,356	1,393	1,963	$ 8,784,088	$ 3,508,382	$ 5,275,706
Childbirth and Pregnancy	n/a	764	n/a	n/a	847	n/a	n/a	2,266	n/a	n/a	$ 6,497,730	n/a
Symptoms and Ill-Defined	367	199	168	416	223	193	1,273	590	683	$ 3,659,813	$ 1,727,967	$ 1,931,846
Other Factors	159	74	85	183	83	100	1,740	826	914	$ 3,349,376	$ 1,575,106	$ 1,774,271
Unknown	2	2	0	2	2	0	4	4	0	$ 6,256	$ 5,845	$ 411

n/a = Not applicable

Table 1.3
Hospitalizations - Various Metrics (Part 3)
2008/09 to 2010/11 Annual Average

Variables	Avg Visits Per Patient			Avg Bed Days Per Patient			Avg Bed Days Per Visit			Avg Costs Per Patient			Avg Cost Per Visit			Avg Cost Per Day		
	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male
Total	1.4	1.4	1.5	7.8	6.5	9.8	5.4	4.7	6.3	$ 19,405	$ 16,369	$ 23,839	$ 13,463	$ 11,907	$ 15,493	$ 2,489	$ 2,536	$ 2,442
Age Group																		
Under 1	1.3	1.3	1.4	7.8	8.1	7.5	5.8	6.2	5.5	$ 24,488	$ 26,478	$ 23,092	$ 18,265	$ 20,377	$ 16,859	$ 3,155	$ 3,263	$ 3,072
1 to 4	1.3	1.3	1.3	4.1	3.8	4.3	3.2	3.0	3.3	$ 12,812	$ 11,963	$ 13,468	$ 9,993	$ 9,473	$ 10,384	$ 3,137	$ 3,131	$ 3,141
5 to 14	1.3	1.2	1.4	4.3	3.6	5.1	3.3	3.0	3.5	$ 12,183	$ 10,685	$ 13,814	$ 9,398	$ 9,152	$ 9,616	$ 2,837	$ 3,003	$ 2,712
15 to 24	1.3	1.2	1.3	5.0	4.1	7.2	3.9	3.3	5.5	$ 12,544	$ 10,614	$ 17,398	$ 9,987	$ 8,599	$ 13,279	$ 2,533	$ 2,619	$ 2,412
25 to 44	1.3	1.3	1.4	5.2	4.5	6.9	3.9	3.5	4.9	$ 13,506	$ 12,171	$ 16,986	$ 10,149	$ 9,377	$ 11,994	$ 2,598	$ 2,683	$ 2,453
45 to 64	1.5	1.5	1.6	9.3	8.2	10.9	6.0	5.6	6.4	$ 22,920	$ 20,379	$ 25,245	$ 14,924	$ 13,824	$ 15,855	$ 2,472	$ 2,489	$ 2,460
65 to 74	1.8	1.7	1.9	14.5	13.6	15.2	8.1	7.9	8.2	$ 34,923	$ 31,543	$ 37,612	$ 19,499	$ 18,396	$ 20,312	$ 2,409	$ 2,320	$ 2,473
75 & Up	1.8	1.7	1.8	17.2	16.4	18.1	9.8	9.4	10.1	$ 36,717	$ 35,313	$ 38,023	$ 20,810	$ 20,369	$ 21,207	$ 2,129	$ 2,157	$ 2,106
Ethnicity																		
Aboriginal	1.5	1.4	1.6	7.6	6.5	9.3	5.2	4.6	5.9	$ 18,872	$ 16,483	$ 22,684	$ 12,820	$ 11,711	$ 14,400	$ 2,482	$ 2,525	$ 2,434
Non-Aboriginal	1.4	1.3	1.5	8.0	6.4	10.2	5.6	4.8	6.6	$ 19,733	$ 16,244	$ 24,454	$ 13,812	$ 12,091	$ 15,838	$ 2,454	$ 2,526	$ 2,392
Unknown	1.2	1.2	1.2	8.1	5.7	10.6	6.6	4.7	8.6	$ 22,481	$ 15,948	$ 29,231	$ 18,380	$ 13,094	$ 23,794	$ 2,773	$ 2,778	$ 2,770
Community Type																		
Yellowknife	1.4	1.3	1.5	7.8	6.5	9.7	5.6	4.9	6.6	$ 19,391	$ 16,823	$ 23,318	$ 13,889	$ 12,566	$ 15,716	$ 2,493	$ 2,589	$ 2,394
Regional Centres	1.6	1.5	1.7	7.7	6.3	9.5	4.9	4.3	5.8	$ 19,094	$ 15,967	$ 23,286	$ 12,282	$ 10,818	$ 14,028	$ 2,487	$ 2,542	$ 2,439
Smaller Communities	1.4	1.3	1.4	7.7	6.4	9.6	5.7	4.9	6.7	$ 19,210	$ 15,774	$ 24,270	$ 14,180	$ 12,108	$ 16,958	$ 2,488	$ 2,459	$ 2,515
H&SS Authority																		
Beaufort Delta	1.5	1.4	1.6	6.2	5.3	7.8	4.3	3.8	5.0	$ 15,636	$ 13,135	$ 19,816	$ 10,739	$ 9,418	$ 12,716	$ 2,509	$ 2,468	$ 2,555
Deh Cho	1.3	1.3	1.4	8.8	7.8	10.1	6.6	5.9	7.4	$ 21,465	$ 17,918	$ 26,224	$ 15,996	$ 13,591	$ 19,091	$ 2,436	$ 2,284	$ 2,595
Fort Smith	1.6	1.5	1.7	7.2	6.7	7.8	4.6	4.6	4.6	$ 17,678	$ 17,053	$ 18,467	$ 11,392	$ 11,714	$ 11,037	$ 2,460	$ 2,530	$ 2,382
Hay River	1.6	1.5	1.8	10.5	7.8	13.5	6.4	5.1	7.7	$ 25,959	$ 19,856	$ 32,895	$ 15,884	$ 13,005	$ 18,730	$ 2,481	$ 2,537	$ 2,445
Sahtu	1.3	1.2	1.3	8.4	6.3	11.0	6.5	5.1	8.3	$ 19,683	$ 15,299	$ 25,382	$ 15,378	$ 12,308	$ 19,114	$ 2,350	$ 2,412	$ 2,303
Tlicho	1.3	1.3	1.5	6.7	5.2	9.2	5.0	4.1	6.3	$ 17,717	$ 13,977	$ 23,666	$ 13,229	$ 11,051	$ 16,237	$ 2,639	$ 2,710	$ 2,575
Yellowknife	1.4	1.3	1.5	7.9	6.6	9.7	5.6	4.9	6.6	$ 19,622	$ 17,237	$ 23,207	$ 14,010	$ 12,787	$ 15,684	$ 2,493	$ 2,592	$ 2,391

Table 1.4
Hospitalizations - Various Metrics (Part 4)
2008/09 to 2010/11 Annual Average

Variables	Avg Visits Per Patient			Avg Bed Days Per Patient			Avg Bed Days Per Visit			Avg Costs Per Patient			Avg Cost Per Visit			Avg Cost Per Day		
	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male
Location																		
In the NWT	1.4	1.3	1.5	6.9	5.7	8.8	5.1	4.4	6.0	$ 17,906	$ 15,211	$ 22,099	$ 13,118	$ 11,620	$ 15,217	$ 2,588	$ 2,658	$ 2,517
Outside of the NWT	1.2	1.2	1.2	8.5	8.0	9.0	7.1	6.6	7.5	$ 18,178	$ 16,402	$ 19,808	$ 15,147	$ 13,605	$ 16,575	$ 2,140	$ 2,058	$ 2,207
Diseases and Conditions																		
Infectious & Parasitic	1.1	1.1	1.1	7.7	7.2	8.0	6.9	6.4	7.4	$ 16,946	$ 16,295	$ 17,547	$ 15,360	$ 14,457	$ 16,236	$ 2,211	$ 2,248	$ 2,180
Cancers	1.3	1.2	1.3	10.8	8.9	13.5	8.5	7.2	10.1	$ 25,310	$ 21,505	$ 30,673	$ 19,825	$ 17,345	$ 23,088	$ 2,341	$ 2,408	$ 2,279
Blood Related	1.2	1.1	1.3	11.1	6.5	15.1	9.2	5.6	11.9	$ 26,009	$ 16,093	$ 34,508	$ 21,468	$ 14,045	$ 27,218	$ 2,346	$ 2,492	$ 2,292
Endocrine, nutritional and metabolic	1.3	1.3	1.3	9.0	8.1	9.8	7.1	6.3	7.8	$ 21,171	$ 19,420	$ 22,667	$ 16,675	$ 15,118	$ 18,033	$ 2,358	$ 2,405	$ 2,325
Mental Health	1.4	1.4	1.4	10.4	10.1	10.6	7.4	7.2	7.6	$ 20,982	$ 20,658	$ 21,247	$ 14,914	$ 14,705	$ 15,084	$ 2,015	$ 2,037	$ 1,997
Nervous System	1.3	1.3	1.3	10.1	8.2	11.8	7.9	6.4	9.4	$ 23,017	$ 19,499	$ 26,164	$ 18,144	$ 15,183	$ 20,858	$ 2,288	$ 2,388	$ 2,226
Eye and Adnexa	1.2	1.2	1.3	2.5	2.5	2.5	2.1	2.2	2.0	$ 3,945	$ 4,220	$ 3,713	$ 3,211	$ 3,650	$ 2,880	$ 1,560	$ 1,667	$ 1,470
Ear and Mastoid process	1.0	1.0	1.1	2.1	2.4	1.8	2.0	2.3	1.7	$ 5,953	$ 5,836	$ 6,082	$ 5,682	$ 5,582	$ 5,792	$ 2,809	$ 2,422	$ 3,379
Circulatory System	1.4	1.4	1.4	8.8	8.8	8.8	6.4	6.3	6.4	$ 23,036	$ 21,815	$ 23,745	$ 16,681	$ 15,782	$ 17,204	$ 2,619	$ 2,487	$ 2,696
Respiratory System	1.2	1.2	1.3	6.0	5.5	6.5	4.9	4.5	5.2	$ 15,843	$ 14,565	$ 17,022	$ 12,786	$ 11,983	$ 13,500	$ 2,620	$ 2,634	$ 2,610
Digestive System	1.2	1.2	1.2	6.1	6.0	6.3	4.9	4.8	5.1	$ 15,487	$ 15,437	$ 15,542	$ 12,502	$ 12,481	$ 12,526	$ 2,526	$ 2,592	$ 2,459
Skin Related	1.1	1.1	1.1	10.2	6.8	12.6	9.3	6.5	11.1	$ 21,608	$ 14,204	$ 26,804	$ 19,588	$ 13,527	$ 23,505	$ 2,112	$ 2,085	$ 2,122
Musculoskeletal	1.1	1.1	1.1	5.5	6.6	4.4	5.0	5.9	4.0	$ 17,429	$ 19,051	$ 15,735	$ 15,844	$ 17,125	$ 14,477	$ 3,160	$ 2,879	$ 3,605
Genitourinary	1.1	1.1	1.2	4.5	3.6	6.6	4.0	3.4	5.6	$ 12,087	$ 11,175	$ 14,359	$ 10,900	$ 10,349	$ 12,155	$ 2,700	$ 3,087	$ 2,173
Perinatal Period	1.2	1.1	1.3	10.2	10.7	9.9	8.4	9.4	7.8	$ 34,136	$ 34,269	$ 34,036	$ 28,112	$ 29,908	$ 26,893	$ 3,336	$ 3,194	$ 3,452
Congenital Anomalies	1.2	1.1	1.3	10.5	11.2	9.9	8.9	10.4	7.7	$ 36,683	$ 36,974	$ 36,426	$ 30,951	$ 34,269	$ 28,479	$ 3,492	$ 3,298	$ 3,685
Injuries & Poisonings	1.2	1.2	1.2	6.9	6.9	6.9	5.9	5.9	5.9	$ 17,951	$ 17,254	$ 18,447	$ 15,348	$ 14,803	$ 15,733	$ 2,617	$ 2,518	$ 2,688
Childbirth and Pregnancy	n/a	1.1	n/a	n/a	3.0	n/a	n/a	2.7	n/a	n/a	$ 8,505	n/a	n/a	$ 7,671	n/a	n/a	$ 2,868	n/a
Symptoms and Ill-Defined	1.1	1.1	1.1	3.5	3.0	4.1	3.1	2.6	3.5	$ 9,972	$ 8,669	$ 11,522	$ 8,805	$ 7,749	$ 10,027	$ 2,874	$ 2,927	$ 2,828
Other Factors	1.2	1.1	1.2	10.9	11.2	10.7	9.5	9.9	9.1	$ 21,065	$ 21,382	$ 20,792	$ 18,269	$ 18,901	$ 17,743	$ 1,925	$ 1,908	$ 1,941
Unknown	1.2	1.2	1.0	2.2	2.4	1.0	1.9	2.0	1.0	$ 3,128	$ 3,507	$ 1,232	$ 2,681	$ 2,923	$ 1,232	$ 1,444	$ 1,461	$ 1,232

n/a = Not applicable

Table 1.5
Hospitalizations - Various Metrics (Part 5)
2008/09 to 2010/11 Annual Average

Variables	Patients per 1,000			Visits per 1,000			Bed Days per 1,000			Cost Per Capita		
	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male
Total	81	99	64	116	136	98	630	640	621	$ 1,568	$ 1,624	$ 1,516
Age Group												
Under 1	190	152	231	255	198	317	1,479	1,235	1,739	$ 4,665	$ 4,031	$ 5,341
1 to 4	45	40	49	57	51	64	183	154	210	$ 574	$ 482	$ 660
5 to 14	20	21	20	26	24	29	88	74	102	$ 249	$ 223	$ 276
15 to 24	79	119	43	99	147	56	391	484	307	$ 990	$ 1,267	$ 742
25 to 44	86	128	47	115	166	66	448	579	323	$ 1,165	$ 1,555	$ 793
45 to 64	82	84	80	126	124	128	761	689	824	$ 1,881	$ 1,714	$ 2,028
65 to 74	189	180	197	338	308	364	2,738	2,444	2,994	$ 6,597	$ 5,671	$ 7,403
75 & Up	299	274	326	527	475	585	5,151	4,484	5,890	$ 10,966	$ 9,669	$ 12,403
Ethnicity												
Aboriginal	91	117	67	134	165	105	691	766	622	$ 1,714	$ 1,933	$ 1,515
Non-Aboriginal	61	72	51	87	96	79	492	461	523	$ 1,208	$ 1,164	$ 1,251
Unknown	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Community Type												
Yellowknife	73	91	57	102	121	84	569	589	550	$ 1,419	$ 1,525	$ 1,318
Regional Centres	98	115	83	153	169	137	756	721	789	$ 1,880	$ 1,833	$ 1,925
Smaller Communities	81	102	62	109	133	88	622	653	594	$ 1,547	$ 1,606	$ 1,495
H&SS Authority												
Beaufort Delta	98	127	71	143	176	111	611	673	553	$ 1,534	$ 1,662	$ 1,413
Deh Cho	72	86	58	96	114	80	631	677	589	$ 1,538	$ 1,548	$ 1,529
Fort Smith	109	121	98	170	176	163	785	813	757	$ 1,931	$ 2,057	$ 1,803
Hay River	81	90	73	132	137	128	847	704	978	$ 2,101	$ 1,785	$ 2,392
Sahtu	71	86	58	91	107	77	594	545	637	$ 1,396	$ 1,316	$ 1,466
Tlicho	96	124	70	128	157	102	642	639	644	$ 1,693	$ 1,733	$ 1,658
Yellowknife	74	92	58	104	124	86	586	610	564	$ 1,461	$ 1,580	$ 1,348

n/a = Not applicable.

Table 1.6
Hospitalizations - Various Metrics (Part 6)
2008/09 to 2010/11 Annual Average

Variables	Patients per 1,000			Visits per 1,000			Bed Days per 1,000			Cost Per Capita		
	Both	Female	Male	Both	Female	Male	Both	Female	Male	Both	Female	Male
Location												
In the NWT	71	89	54	97	117	78	490	510	471	$ 1,268	$ 1,356	$ 1,186
Outside of the NWT	17	16	17	20	20	20	140	130	149	$ 300	$ 268	$ 330
Diseases and Conditions												
Infectious & Parasitic	2	2	2	3	3	3	18	17	19	$ 40	$ 38	$ 42
Cancers	4	5	3	5	6	4	42	42	42	$ 98	$ 100	$ 95
Blood Related	1	1	1	1	1	1	9	5	12	$ 21	$ 12	$ 29
Endocrine, nutritional and metabolic	2	2	2	3	2	3	18	16	21	$ 43	$ 38	$ 48
Mental Health	8	8	9	12	11	13	88	80	95	$ 177	$ 163	$ 190
Nervous System	2	2	2	2	2	2	17	13	20	$ 38	$ 31	$ 44
Eye and Adnexa	1	1	1	1	1	1	1	1	1	$ 2	$ 2	$ 2
Ear and Mastoid process	0	0	0	0	0	0	1	1	1	$ 2	$ 2	$ 2
Circulatory System	6	5	7	8	6	10	54	41	66	$ 140	$ 101	$ 177
Respiratory System	9	9	10	12	11	12	57	52	62	$ 150	$ 136	$ 162
Digestive System	9	10	9	12	13	11	58	61	56	$ 147	$ 157	$ 137
Skin Related	1	1	2	2	1	2	15	9	21	$ 32	$ 18	$ 45
Musculoskeletal	4	4	3	4	4	4	20	25	15	$ 62	$ 72	$ 53
Genitourinary	5	7	3	5	7	3	20	24	17	$ 55	$ 75	$ 36
Perinatal Period	1	1	1	1	1	1	9	8	9	$ 29	$ 26	$ 32
Congenital Anomalies	1	1	1	1	1	1	6	7	6	$ 23	$ 22	$ 23
Injuries & Poisonings	11	10	13	13	11	15	77	66	87	$ 201	$ 166	$ 234
Childbirth and Pregnancy	n/a	36	n/a	n/a	40	n/a	n/a	107	n/a	n/a	$ 307	n/a
Symptoms and Ill-Defined	8	9	7	10	11	9	29	28	30	$ 84	$ 82	$ 86
Other Factors	4	3	4	4	4	4	40	39	40	$ 77	$ 74	$ 79
Unknown	0	0	0	0	0	0	0	0	0	$ 0	$ 0	$ 0

n/a = Not applicable.

Data Tables – Mental Health

Table 2.1
Hospitalizations where the Patient had a Diagnosis of a Mental Health Condition - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	627	917	7,252	$ 15,331,104	1.5	11.6	7.9	$ 24,439	$ 16,713	$ 2,114	14.4	21.0	165.9	$ 351
Gender														
Female	284	402	3,014	$ 6,254,408	1.4	10.6	7.5	$ 22,023	$ 15,545	$ 2,075	13.4	19.0	142.6	$ 296
Male	343	515	4,238	$ 9,076,695	1.5	12.3	8.2	$ 26,437	$ 17,625	$ 2,142	15.2	22.8	187.7	$ 402
Age Group														
0 to 14	17	18	82	$ 211,022	1.1	4.9	4.5	$ 12,661	$ 11,510	$ 2,563	1.7	1.9	8.6	$ 22
15 to 24	120	158	1,153	$ 2,457,978	1.3	9.6	7.3	$ 20,426	$ 15,524	$ 2,132	16.5	21.8	158.5	$ 338
25 to 44	219	337	1,889	$ 4,121,113	1.5	8.6	5.6	$ 18,789	$ 12,229	$ 2,182	15.7	24.1	135.3	$ 295
45 to 64	190	293	2,149	$ 4,655,095	1.5	11.3	7.3	$ 24,544	$ 15,870	$ 2,166	17.8	27.5	201.5	$ 437
65 to 74	43	57	843	$ 1,865,151	1.3	19.6	14.9	$ 43,376	$ 32,914	$ 2,212	30.5	40.2	598.1	$ 1,323
75 & Up	40	53	1,135	$ 2,018,563	1.3	28.4	21.3	$ 50,464	$ 37,848	$ 1,779	46.9	62.5	1,330.7	$ 2,367
Ethnicity														
Aboriginal	426	646	4,196	$ 9,508,927	1.5	9.8	6.5	$ 22,304	$ 14,712	$ 2,266	19.4	29.3	190.5	$ 432
Non-Aboriginal	159	219	2,762	$ 5,142,353	1.4	17.4	12.6	$ 32,410	$ 23,481	$ 1,862	7.3	10.1	127.3	$ 237
Unknown	42	52	294	$ 679,824	1.2	6.9	5.6	$ 16,059	$ 13,074	$ 2,315	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	261	387	3,744	$ 7,425,410	1.5	14.3	9.7	$ 28,450	$ 19,204	$ 1,983	12.9	19.2	185.6	$ 368
Regional Centres	191	292	1,644	$ 3,718,702	1.5	8.6	5.6	$ 19,470	$ 12,750	$ 2,262	18.7	28.5	160.7	$ 364
Smaller Communities	180	236	1,853	$ 4,167,761	1.3	10.3	7.8	$ 23,197	$ 17,635	$ 2,249	13.5	17.7	139.2	$ 313

Notes: n/a = not applicable.

Table 2.2
Hospitalizations where the Patient had a Diagnosis of Alcohol or Drug Abuse - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	429	615	3,250	$ 7,454,988	1.4	7.6	5.3	$ 17,391	$ 12,122	$ 2,294	9.8	14.1	74.3	$ 171
Gender														
Female	169	234	1,086	$ 2,569,235	1.4	6.4	4.6	$ 15,203	$ 10,995	$ 2,365	8.0	11.1	51.4	$ 122
Male	260	381	2,164	$ 4,885,753	1.5	8.3	5.7	$ 18,815	$ 12,812	$ 2,258	11.5	16.9	95.8	$ 216
Age Group														
0 to 14	9	9	13	$ 48,575	1.0	1.4	1.4	$ 5,397	$ 5,204	$ 3,737	0.9	1.0	1.4	$ 5
15 to 24	76	91	383	$ 915,555	1.2	5.0	4.2	$ 11,994	$ 10,098	$ 2,390	10.5	12.5	52.7	$ 126
25 to 44	166	247	968	$ 2,392,627	1.5	5.8	3.9	$ 14,385	$ 9,674	$ 2,472	11.9	17.7	69.3	$ 171
45 to 64	138	216	1,197	$ 2,763,231	1.6	8.7	5.6	$ 19,975	$ 12,813	$ 2,308	13.0	20.2	112.2	$ 259
65 to 74	29	36	322	$ 746,411	1.3	11.2	8.9	$ 26,038	$ 20,543	$ 2,320	20.3	25.8	228.1	$ 529
75 & Up	11	15	367	$ 586,408	1.4	32.4	23.9	$ 51,742	$ 38,244	$ 1,598	13.3	18.0	430.4	$ 688
Ethnicity														
Aboriginal	329	488	2,253	$ 5,384,636	1.5	6.8	4.6	$ 16,350	$ 11,027	$ 2,390	15.0	22.2	102.3	$ 245
Non-Aboriginal	72	94	852	$ 1,728,834	1.3	11.8	9.0	$ 24,012	$ 18,327	$ 2,028	3.9	4.3	39.3	$ 80
Unknown	27	32	145	$ 341,519	1.2	5.3	4.5	$ 12,495	$ 10,562	$ 2,355	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	167	245	1,535	$ 3,425,318	1.5	9.2	6.3	$ 20,511	$ 13,962	$ 2,231	8.3	12.2	76.1	$ 170
Regional Centres	134	202	765	$ 1,902,142	1.5	5.7	3.8	$ 14,195	$ 9,432	$ 2,488	13.1	19.7	74.7	$ 186
Smaller Communities	132	167	949	$ 2,123,474	1.3	7.2	5.7	$ 16,087	$ 12,715	$ 2,238	9.9	12.5	71.3	$ 159

Notes: n/a = not applicable.

Table 2.3
Hospitalizations where the Patient had a Diagnosis of a Mood Disorder - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	111	141	1,323	$ 2,403,526	1.3	11.9	9.4	$ 21,653	$ 17,006	$ 1,817	2.5	3.2	30.3	$ 55
Gender														
Female	67	84	825	$ 1,503,633	1.3	12.4	9.8	$ 22,554	$ 17,900	$ 1,823	3.2	4.0	39.0	$ 71
Male	44	57	498	$ 899,893	1.3	11.2	8.7	$ 20,298	$ 15,696	$ 1,807	2.0	2.5	22.1	$ 40
Age Group														
0 to 14	1	2	23	$ 41,012	1.3	17.5	14.0	$ 30,759	$ 24,607	$ 1,758	0.1	0.2	2.4	$ 4
15 to 24	25	30	255	$ 455,727	1.2	10.4	8.6	$ 18,475	$ 15,362	$ 1,785	3.4	4.1	35.1	$ 63
25 to 44	39	50	412	$ 760,386	1.3	10.5	8.3	$ 19,332	$ 15,310	$ 1,847	2.8	3.6	29.5	$ 54
45 to 64	36	48	504	$ 868,757	1.3	14.0	10.4	$ 24,132	$ 17,974	$ 1,725	3.4	4.5	47.2	$ 81
65 to 74	5	7	70	$ 147,779	1.3	13.1	10.0	$ 27,709	$ 21,111	$ 2,111	3.8	5.0	49.6	$ 105
75 & Up	4	5	59	$ 129,864	1.2	13.6	11.8	$ 29,969	$ 25,973	$ 2,201	5.1	5.9	69.2	$ 152
Ethnicity														
Aboriginal	55	68	584	$ 1,087,327	1.3	10.7	8.5	$ 19,890	$ 15,912	$ 1,862	2.5	3.1	26.5	$ 49
Non-Aboriginal	47	62	630	$ 1,112,577	1.3	13.4	10.2	$ 23,672	$ 18,042	$ 1,766	2.2	2.8	29.0	$ 51
Unknown	9	11	109	$ 203,622	1.2	11.7	9.6	$ 21,817	$ 17,967	$ 1,868	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	54	66	742	$ 1,287,057	1.2	13.7	11.2	$ 23,834	$ 19,403	$ 1,735	2.7	3.3	36.8	$ 64
Regional Centres	33	47	312	$ 656,672	1.4	9.4	6.6	$ 19,700	$ 13,873	$ 2,105	3.3	4.6	30.5	$ 64
Smaller Communities	24	27	267	$ 455,908	1.1	11.1	9.9	$ 18,996	$ 16,885	$ 1,710	1.8	2.0	20.0	$ 34

Notes: n/a = not applicable

Table 2.4
Hospitalizations where the Patient had a Diagnosis of Schziophrenia or a Psychotic Disorder - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	48	75	1,356	$ 2,328,904	1.5	28.1	18.2	$ 48,184	$ 31,191	$ 1,717	1.1	1.7	31.0	$ 53
Gender														
Female	20	30	516	$ 932,252	1.5	25.8	17.0	$ 46,613	$ 30,734	$ 1,808	0.9	1.4	24.4	$ 44
Male	28	44	840	$ 1,396,652	1.6	29.7	19.0	$ 49,294	$ 31,503	$ 1,662	1.3	2.0	37.2	$ 62
Age Group														
0 to 14	-	-	-	$ -	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
15 to 24	19	28	431	$ 746,861	1.5	23.1	15.6	$ 40,010	$ 26,995	$ 1,733	2.6	3.8	59.2	$ 103
25 to 44	19	33	536	$ 930,130	1.7	27.7	16.2	$ 48,110	$ 28,186	$ 1,736	1.4	2.4	38.4	$ 67
45 to 64	8	11	180	$ 336,621	1.4	21.6	15.9	$ 40,394	$ 29,702	$ 1,867	0.8	1.1	16.9	$ 32
65 to 74	1	1	20	$ 39,111	1.3	20.3	15.3	$ 39,111	$ 29,333	$ 1,923	0.7	0.9	14.4	$ 28
75 & Up	1	1	189	$ 276,181	1.0	141.5	141.5	$ 207,136	$ 207,136	$ 1,464	1.6	1.6	221.3	$ 324
Ethnicity														
Aboriginal	31	50	838	$ 1,559,511	1.6	26.8	16.7	$ 49,772	$ 30,984	$ 1,860	1.4	2.3	38.1	$ 71
Non-Aboriginal	12	19	475	$ 675,379	1.5	38.5	25.0	$ 54,760	$ 35,546	$ 1,421	0.6	0.9	21.9	$ 31
Unknown	5	5	42	$ 94,013	1.1	9.1	7.9	$ 20,146	$ 17,627	$ 2,221	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	27	44	903	$ 1,495,954	1.6	33.0	20.5	$ 54,730	$ 33,999	$ 1,656	1.4	2.2	44.8	$ 74
Regional Centres	7	11	183	$ 311,236	1.6	27.4	17.1	$ 46,685	$ 29,178	$ 1,704	0.7	1.0	17.9	$ 30
Smaller Communities	15	20	265	$ 512,116	1.3	18.0	13.5	$ 34,917	$ 26,040	$ 1,935	1.1	1.5	19.9	$ 38

Notes: n/a = not applicable

Table 2.5
Hospitalizations where the Patient had a Diagnosis of an Anxiety Disorder - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	76	86	634	$ 1,341,453	1.1	8.3	7.4	$ 17,651	$ 15,598	$ 2,117	1.7	2.0	14.5	$ 31
Gender														
Female	48	55	451	$ 843,830	1.2	9.5	8.2	$ 17,703	$ 15,342	$ 1,871	2.3	2.6	21.3	$ 40
Male	28	31	183	$ 497,623	1.1	6.4	5.9	$ 17,563	$ 16,052	$ 2,724	1.3	1.4	8.1	$ 22
Age Group														
0 to 14	2	2	8	$ 26,454	1.0	4.8	4.8	$ 15,872	$ 15,872	$ 3,307	0.2	0.2	0.8	$ 3
15 to 24	19	21	162	$ 336,141	1.1	8.5	7.8	$ 17,692	$ 16,265	$ 2,075	2.6	2.8	22.3	$ 46
25 to 44	27	30	166	$ 326,019	1.1	6.1	5.5	$ 12,075	$ 10,748	$ 1,968	1.9	2.2	11.9	$ 23
45 to 64	25	29	250	$ 524,649	1.2	10.1	8.5	$ 21,270	$ 17,886	$ 2,101	2.3	2.8	23.4	$ 49
65 to 74	2	2	39	$ 96,636	1.2	19.5	16.7	$ 48,318	$ 41,415	$ 2,478	1.4	1.7	27.7	$ 69
75 & Up	2	2	9	$ 31,554	1.0	5.6	5.6	$ 18,932	$ 18,932	$ 3,381	2.0	2.0	10.9	$ 37
Ethnicity														
Aboriginal	41	47	267	$ 622,628	1.1	6.5	5.7	$ 15,186	$ 13,247	$ 2,332	1.9	2.1	12.1	$ 28
Non-Aboriginal	28	31	322	$ 618,516	1.1	11.5	10.3	$ 22,090	$ 19,740	$ 1,921	1.3	1.4	14.8	$ 29
Unknown	7	8	45	$ 100,310	1.1	6.4	5.8	$ 14,330	$ 13,084	$ 2,246	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	40	45	373	$ 741,116	1.1	9.2	8.4	$ 18,375	$ 16,592	$ 1,987	2.0	2.2	18.5	$ 37
Regional Centres	20	23	155	$ 317,168	1.2	7.9	6.6	$ 16,127	$ 13,593	$ 2,046	1.9	2.3	15.2	$ 31
Smaller Communities	16	18	105	$ 282,215	1.1	6.7	5.9	$ 18,014	$ 15,974	$ 2,688	1.2	1.3	7.9	$ 21

Notes: n/a = not applicable.

Table 2.6
Hospitalizations where the Patient had a Diagnosis of Dementia or other Organic Brain Disorders - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	46	58	1,438	$ 2,894,873	1.3	31.0	24.8	$ 62,479	$ 49,912	$ 2,013	1.1	1.3	32.9	$ 66
Gender														
Female	21	25	490	$ 968,529	1.2	23.3	19.3	$ 46,120	$ 38,231	$ 1,978	1.0	1.2	23.2	$ 46
Male	25	33	948	$ 1,926,344	1.3	37.4	29.0	$ 76,040	$ 58,970	$ 2,031	1.1	1.4	42.0	$ 85
Age Group														
0 to 14	-	-	-	$ -	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
15 to 24	1	1	1	$ 7,699	1.0	2.0	2.0	$ 11,548	$ 11,548	$ 5,774	0.1	0.1	0.2	$ 1
25 to 44	4	6	44	$ 108,201	1.4	11.1	7.8	$ 27,050	$ 19,094	$ 2,441	0.3	0.4	3.2	$ 8
45 to 64	8	9	224	$ 550,112	1.1	26.9	24.9	$ 66,013	$ 61,124	$ 2,456	0.8	0.8	21.0	$ 52
65 to 74	9	11	424	$ 887,448	1.2	47.1	39.7	$ 98,605	$ 83,198	$ 2,095	6.4	7.6	300.5	$ 629
75 & Up	24	32	745	$ 1,341,413	1.3	30.6	23.3	$ 55,127	$ 41,919	$ 1,801	28.5	37.5	873.3	$ 1,573
Ethnicity														
Aboriginal	26	33	655	$ 1,356,275	1.3	25.5	19.7	$ 52,842	$ 40,688	$ 2,071	1.2	1.5	29.7	$ 62
Non-Aboriginal	20	24	764	$ 1,467,624	1.2	38.8	32.3	$ 74,625	$ 62,012	$ 1,922	0.9	1.1	35.2	$ 68
Unknown	1	1	19	$ 70,975	1.0	19.3	19.3	$ 70,975	$ 70,975	$ 3,671	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	15	19	759	$ 1,401,019	1.2	49.5	39.9	$ 91,371	$ 73,738	$ 1,846	0.8	0.9	37.6	$ 69
Regional Centres	17	22	356	$ 729,210	1.3	21.0	16.0	$ 42,895	$ 32,651	$ 2,046	1.7	2.2	34.8	$ 71
Smaller Communities	14	17	323	$ 764,644	1.2	23.0	19.4	$ 54,617	$ 45,879	$ 2,370	1.1	1.3	24.2	$ 57

Notes: n/a = not applicable

Data Tables - Diabetes

Table 3.1
Hospitalizations where the Patient had a Diagnosis of Diabetes - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	257	431	3,767	$ 8,689,197	1.7	14.7	8.7	$ 33,810	$ 20,161	$ 2,306	6.0	10.0	87.6	$ 202
Gender														
Female	114	185	1,669	$ 3,761,282	1.6	14.6	9.0	$ 32,994	$ 20,368	$ 2,254	5.5	8.9	80.3	$ 181
Male	143	246	2,098	$ 4,927,916	1.7	14.7	8.5	$ 34,461	$ 20,005	$ 2,348	6.4	11.1	94.4	$ 222
Age Group														
1 to 15	3	4	12	$ 40,320	1.2	4.1	3.4	$ 13,440	$ 10,996	$ 3,269	0.3	0.4	1.4	$ 5
15 to 24	5	5	28	$ 80,186	1.1	6.1	5.3	$ 17,183	$ 15,035	$ 2,830	0.6	0.7	3.9	$ 11
25 to 44	25	47	277	$ 615,744	1.9	11.1	5.9	$ 24,630	$ 13,195	$ 2,220	1.8	3.3	19.9	$ 44
45 to 64	112	171	1,514	$ 3,612,494	1.5	13.5	8.8	$ 32,254	$ 21,085	$ 2,387	10.5	16.1	141.9	$ 339
65 to 74	62	119	1,115	$ 2,491,978	1.9	18.0	9.3	$ 40,193	$ 20,882	$ 2,236	44.0	84.6	790.5	$ 1,767
75 & Up	52	85	821	$ 1,848,474	1.6	15.8	9.7	$ 35,548	$ 21,832	$ 2,251	61.0	99.3	962.9	$ 2,168
Ethnicity														
Aboriginal	117	189	1,596	$ 3,583,454	1.6	13.7	8.4	$ 30,715	$ 18,960	$ 2,245	5.4	8.7	73.4	$ 165
Non-Aboriginal	132	232	2,099	$ 4,975,762	1.8	15.9	9.0	$ 37,791	$ 21,447	$ 2,371	6.2	10.9	98.7	$ 234
Unknown	9	10	72	$ 129,981	1.2	8.3	7.2	$ 14,998	$ 12,998	$ 1,805	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	114	183	1,673	$ 3,735,327	1.6	14.7	9.1	$ 32,862	$ 20,375	$ 2,233	5.7	9.2	84.2	$ 188
Regional Centres	88	164	1,409	$ 3,502,681	1.9	16.0	8.6	$ 39,653	$ 21,358	$ 2,485	8.8	16.3	140.0	$ 348
Smaller Communities	56	83	682	$ 1,447,497	1.5	12.1	8.2	$ 25,695	$ 17,440	$ 2,122	4.3	6.3	52.2	$ 111

Notes: n/a = not applicable

Table 3.2

Hospitalizations where the Patient had a Diagnosis of Diabetes and a Cardiovascular Disease - Various Metrics

2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	178	292	2,882	$ 6,717,379	1.6	16.2	9.9	$ 37,738	$ 22,978	$ 2,331	4.1	6.8	67.0	$ 156
Gender														
Female	79	124	1,282	$ 2,898,497	1.6	16.3	10.3	$ 36,845	$ 23,375	$ 2,260	3.8	6.0	61.7	$ 140
Male	99	168	1,599	$ 3,818,882	1.7	16.1	9.5	$ 37,445	$ 22,686	$ 2,388	4.5	7.6	71.9	$ 172
Age Group														
1 to 15	0	0	1	$ 2,177	1.0	4.0	4.0	$ 6,531	$ 6,531	$ 1,633	0.0	0.0	0.2	$ 0
15 to 24	1	1	3	$ 13,229	1.5	4.0	2.7	$ 19,843	$ 13,229	$ 4,961	0.1	0.1	0.4	$ 2
25 to 44	9	14	146	$ 291,374	1.7	16.8	10.2	$ 33,620	$ 20,328	$ 1,996	0.6	1.0	10.5	$ 21
45 to 64	75	112	1,090	$ 2,682,962	1.5	14.5	9.7	$ 35,615	$ 23,884	$ 2,461	7.1	10.5	102.2	$ 252
65 to 74	49	94	936	$ 2,103,080	1.9	19.0	9.9	$ 42,630	$ 22,294	$ 2,247	35.0	66.9	663.8	$ 1,492
75 & Up	45	70	705	$ 1,624,558	1.6	15.7	10.1	$ 36,101	$ 23,208	$ 2,303	52.8	82.1	827.2	$ 1,905
Ethnicity														
Aboriginal	78	120	1,149	$ 2,574,849	1.5	14.7	9.6	$ 32,870	$ 21,517	$ 2,240	3.6	5.5	52.8	$ 118
Non-Aboriginal	95	168	1,675	$ 4,041,474	1.8	17.6	10.0	$ 42,393	$ 24,104	$ 2,413	4.5	7.9	78.8	$ 190
Unknown	4	5	57	$ 101,057	1.2	13.2	11.5	$ 23,321	$ 20,211	$ 1,763	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	81	129	1,231	$ 2,791,359	1.6	15.3	9.5	$ 34,604	$ 21,583	$ 2,267	4.1	6.5	62.0	$ 141
Regional Centres	59	110	1,131	$ 2,825,367	1.9	19.2	10.3	$ 47,888	$ 25,763	$ 2,497	5.9	10.9	112.4	$ 281
Smaller Communities	38	53	518	$ 1,099,199	1.4	13.6	9.8	$ 28,926	$ 20,740	$ 2,122	2.9	4.1	39.6	$ 84

Notes: n/a = not applicable.

Table 3.3
Hospitalizations where the Patient had a Diagnosis of Diabetes and a Renal Disease - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	44	74	906	$ 1,995,896	1.7	20.6	12.3	$ 45,361	$ 27,094	$ 2,204	1.0	1.7	21.1	$ 46
Gender														
Female	14	25	326	$ 734,627	1.7	22.7	13.0	$ 51,253	$ 29,385	$ 2,253	0.7	1.2	15.7	$ 35
Male	30	49	580	$ 1,261,269	1.6	19.5	11.9	$ 42,515	$ 25,916	$ 2,176	1.3	2.2	26.1	$ 57
Age Group														
1 to 15	-	-	-	$ -	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
15 to 24	-	-	-	$ -	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
25 to 44	2	2	27	$ 46,039	1.4	16.0	11.4	$ 27,623	$ 19,731	$ 1,726	0.1	0.2	1.9	$ 3
45 to 64	17	33	373	$ 845,319	1.9	21.5	11.4	$ 48,768	$ 25,877	$ 2,266	1.6	3.1	35.0	$ 79
65 to 74	14	22	342	$ 740,191	1.5	23.9	15.8	$ 51,641	$ 34,163	$ 2,162	10.2	15.4	242.8	$ 525
75 & Up	11	17	164	$ 364,347	1.5	14.9	9.6	$ 33,122	$ 21,432	$ 2,226	12.9	19.9	191.9	$ 427
Ethnicity														
Aboriginal	20	33	465	$ 1,027,330	1.7	23.6	13.9	$ 52,237	$ 30,820	$ 2,211	0.9	1.5	21.4	$ 47
Non-Aboriginal	23	39	438	$ 963,798	1.7	18.8	11.1	$ 41,906	$ 24,503	$ 2,202	1.1	1.9	20.6	$ 45
Unknown	1	1	3	$ 4,769	1.0	3.3	3.3	$ 4,769	$ 4,769	$ 1,431	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	19	34	412	$ 851,960	1.8	22.1	12.1	$ 45,641	$ 25,058	$ 2,070	0.9	1.7	20.7	$ 43
Regional Centres	19	30	382	$ 908,138	1.6	19.7	12.7	$ 46,973	$ 30,271	$ 2,379	1.9	3.0	37.9	$ 90
Smaller Communities	6	10	112	$ 235,798	1.6	18.7	11.6	$ 39,300	$ 24,393	$ 2,099	0.5	0.7	8.6	$ 18

Notes: n/a = not applicable

Data Tables – Chronic Kidney Disease

Table 4.1
Hospitalizations where the Patient had a Diagnosis of a Chronic Kidney Disease - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	127	193	2,131	$ 5,231,343	1.5	16.8	11.0	$ 41,300	$ 27,105	$ 2,454	2.9	4.4	48.8	$ 120
Gender														
Female	52	75	816	$ 2,006,374	1.4	15.6	10.9	$ 38,338	$ 26,871	$ 2,459	2.5	3.5	38.6	$ 95
Male	74	118	1,315	$ 3,224,969	1.6	17.7	11.1	$ 43,585	$ 27,253	$ 2,452	3.3	5.2	58.3	$ 143
Age Group														
0 to 14	7	12	126	$ 473,011	1.7	18.0	10.5	$ 67,573	$ 39,418	$ 3,744	0.7	1.3	13.2	$ 50
15 to 24	4	4	26	$ 57,892	1.0	6.4	6.4	$ 14,473	$ 14,473	$ 2,256	0.5	0.5	3.5	$ 8
25 to 44	15	20	141	$ 357,152	1.4	9.4	6.9	$ 23,810	$ 17,565	$ 2,533	1.1	1.5	10.1	$ 26
45 to 64	44	70	748	$ 1,865,562	1.6	17.1	10.6	$ 42,723	$ 26,525	$ 2,495	4.1	6.6	70.1	$ 175
65 to 74	29	40	634	$ 1,470,792	1.4	21.9	15.8	$ 50,717	$ 36,770	$ 2,321	20.6	28.4	449.4	$ 1,043
75 & Up	28	46	457	$ 1,006,935	1.6	16.1	9.9	$ 35,539	$ 21,732	$ 2,203	33.2	54.3	536.0	$ 1,181
Ethnicity														
Aboriginal	68	104	1,074	$ 2,636,493	1.5	15.8	10.4	$ 38,772	$ 25,432	$ 2,454	3.1	4.7	48.8	$ 120
Non-Aboriginal	55	85	1,028	$ 2,488,910	1.6	18.8	12.0	$ 45,529	$ 29,167	$ 2,421	2.5	3.9	47.4	$ 115
Unknown	4	4	29	$ 105,940	1.0	7.3	7.3	$ 26,485	$ 26,485	$ 3,653	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	50	78	1,011	$ 2,482,556	1.6	20.2	13.0	$ 49,651	$ 31,828	$ 2,456	2.5	3.9	50.1	$ 123
Regional Centres	44	68	686	$ 1,620,033	1.5	15.5	10.0	$ 36,542	$ 23,708	$ 2,360	4.3	6.7	67.1	$ 158
Smaller Communities	33	46	428	$ 1,114,724	1.4	13.0	9.2	$ 33,780	$ 24,059	$ 2,604	2.5	3.5	32.1	$ 84

Notes: n/a = not applicable.

Table 4.2
Hospitalizations where the Patient had a Diagnosis of a Chronic Kidney Disease and a Cardiovascular Disease - Various Metrics
2008/09 to 2010/11 Annual Average

Variables	Unique Patients	Discharges (Visits)	Length of Stay (Bed Days)	Estimated Expenditure	Avg Visits Per Patient	Avg Bed Days Per Patient	Avg Bed Days Per Visit	Avg Cost Per Patient	Avg Cost Per Visit	Avg Cost Per Day	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Total	82	122	1,588	$ 3,851,594	1.5	19.4	13.1	$ 47,162	$ 31,657	$ 2,425	1.9	2.8	36.3	$ 88
Gender														
Female	30	42	561	$ 1,302,384	1.4	18.9	13.5	$ 45,901	$ 31,257	$ 2,320	1.4	2.0	26.5	$ 62
Male	52	80	1,027	$ 2,549,209	1.5	19.8	12.8	$ 49,023	$ 31,865	$ 2,482	2.3	3.5	45.5	$ 113
Age Group														
0 to 14	1	1	30	$ 154,961	1.0	22.8	22.8	$ 116,221	$ 116,221	$ 5,109	0.1	0.1	3.2	$ 16
15 to 24	1	1	11	$ 18,151	1.0	16.0	16.0	$ 27,227	$ 27,227	$ 1,702	0.1	0.1	1.5	$ 2
25 to 44	3	4	43	$ 73,827	1.3	14.4	10.8	$ 24,609	$ 18,457	$ 1,704	0.2	0.3	3.1	$ 5
45 to 64	29	46	531	$ 1,438,886	1.6	18.3	11.6	$ 49,617	$ 31,280	$ 2,708	2.7	4.3	49.8	$ 135
65 to 74	24	33	590	$ 1,314,652	1.4	24.3	17.7	$ 54,027	$ 39,440	$ 2,227	17.3	23.6	418.7	$ 932
75 & Up	24	36	382	$ 851,118	1.5	16.2	10.5	$ 35,963	$ 23,425	$ 2,226	27.8	42.6	448.4	$ 998
Ethnicity														
Aboriginal	38	58	746	$ 1,792,581	1.5	19.6	12.8	$ 47,173	$ 30,730	$ 2,402	1.7	2.6	33.9	$ 81
Non-Aboriginal	42	61	825	$ 1,976,206	1.5	19.8	13.4	$ 47,429	$ 32,221	$ 2,396	1.9	2.8	38.0	$ 91
Unknown	2	2	17	$ 82,806	1.0	8.7	8.7	$ 41,403	$ 41,403	$ 4,777	n/a	n/a	n/a	n/a
Community Type														
Yellowknife	34	53	793	$ 1,915,400	1.6	23.3	14.9	$ 56,335	$ 35,914	$ 2,414	1.7	2.6	39.3	$ 95
Regional Centres	30	44	496	$ 1,144,988	1.5	16.7	11.4	$ 38,595	$ 26,221	$ 2,308	2.9	4.3	48.5	$ 112
Smaller Communities	18	25	299	$ 791,206	1.4	16.6	12.1	$ 43,956	$ 32,076	$ 2,646	1.4	1.9	22.5	$ 59

Notes: n/a = not applicable.

Appendix C: Data and Methodology

Data

The hospitalization information: unique patients, visits, and bed days came from the Canadian Institute for Health Information, *Discharge Abstract Database*. Hospitals in the Northwest Territories and across the country, with the exception of the Province of the Quebec, send discharge abstract data to CIHI. The discharge abstract provides a robust and detail set of information about the patient's stay in the hospital (diagnoses, treatments, and other details). CIHI collates the information, checks the abstract data for accuracy, and provides some additional information to each discharge record, before sending the data back to each jurisdiction.

Financial data came from the Interprovincial Health Insurance Agreements Coordinating Committee (IHIACC) and CIHI's DAD file.

Population estimates used for rates came from the NWT Bureau of Statistics, as well as some detailed breakdowns by ethnicity from the NWT Department of Health and Social Services, *Heath Care Plan Registration Data*.

Methodology

Age Groups

The age groups have been chosen for two reasons: one they provide natural cut-offs for different time periods in a person's life, and two, they are indicative of varying consumption levels of health services, especially hospitalizations (see *Hospitalization Metrics by Single Year of Age* on the next page). Children under the age of 1 are vulnerable, especially those born premature, and are susceptible to infections, such as bronchitis/bronchiolitis. As a child moves beyond its first year of life its immune system becomes more resilient and is better able to fight infections without as much health system intervention, and especially without hospitalization. Children age 1 to 4, while still vulnerable to infection, are less and less likely to be hospitalized as they move through their toddler years. Hospitalizations for this age group tend to be respiratory-related, such as pneumonia and bronchiolitis. Children age 5 to 14 are the least likely to be hospitalized, relative to all other age groups. Reasons for hospitalizations become more varied in this age group. Respiratory issues, such as pneumonia, asthma and influenza, still predominate, but other issues increase in predominance, such as injuries and poisonings and mental health issues.

Youth, age 15 to 24, start to use the health system more often, and the reasons for hospitalizations change. Mental health issues (schizophrenia and alcohol/drug abuse) and injuries dominate, in terms of proportion of hospitalizations and costs. These issues rise in prominence in part due to the relationship

of certain mental health issues and age but also because of the relative physical health of this age group. Young people are less likely to be susceptible to diseases, than those who are older.

The adult years see rise of different reasons for hospitalization. Mental health issues are still prominent, as are injuries, though somewhat less so than relative to youth. Now, issues such as digestive diseases begin to rise in prominence (e.g., gallstones, intestinal issues). And, as adults move into middle age, health issues increase in number and severity, with a number of varied issues dominating the reasons for hospitalization, including: injuries, intestinal and stomach disorders, alcohol abuse, heart disease and stroke, pneumonia and chronic obstructive pulmonary diseases.

Hospitalization Metrics by Single Year of Age
2008/09 to 2010/11 Average

Age	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita	Age	Patients per 1,000	Visits per 1,000	Bed Days per 1,000	Cost Per Capita
Under 1	190	255	1,479	$ 4,665	45	72	92	919	$ 2,193
1	83	95	299	$ 786	46	73	109	547	$ 1,285
2	40	51	154	$ 559	47	70	100	487	$ 1,221
3	35	48	172	$ 623	48	71	97	340	$ 1,020
4	24	35	105	$ 322	49	73	99	585	$ 1,487
5	19	24	42	$ 137	50	80	112	524	$ 1,266
6	19	22	52	$ 166	51	87	117	547	$ 1,340
7	17	21	146	$ 364	52	93	128	813	$ 2,090
8	14	14	58	$ 148	53	80	112	637	$ 1,702
9	12	15	31	$ 93	54	90	127	751	$ 1,705
10	16	21	53	$ 162	55	96	136	839	$ 2,093
11	20	25	91	$ 235	56	89	126	895	$ 2,272
12	23	29	102	$ 303	57	90	129	692	$ 1,834
13	25	30	68	$ 230	58	86	136	766	$ 1,734
14	40	57	212	$ 588	59	104	150	956	$ 2,332
15	40	55	320	$ 733	60	107	180	1,069	$ 2,665
16	42	54	216	$ 574	61	118	178	1,196	$ 2,982
17	38	50	236	$ 571	62	116	162	1,511	$ 3,456
18	48	58	222	$ 554	63	114	179	817	$ 2,313
19	50	57	272	$ 589	64	162	240	1,918	$ 4,373
20	53	65	294	$ 673	65	161	248	1,700	$ 3,850
21	56	74	342	$ 811	66	168	281	2,130	$ 5,100
22	51	64	419	$ 982	67	143	217	1,169	$ 2,817
23	48	60	325	$ 935	68	172	271	1,980	$ 4,824
24	52	61	188	$ 573	69	164	239	2,206	$ 6,920
25	46	56	172	$ 503	70	249	447	4,510	$ 10,276
26	48	62	624	$ 1,366	71	257	444	2,813	$ 7,721
27	43	58	281	$ 678	72	309	566	5,059	$ 11,705
28	37	47	228	$ 506	73	254	406	3,294	$ 7,137
29	35	47	241	$ 529	74	339	552	5,741	$ 13,116
30	43	60	204	$ 586	75	263	374	2,394	$ 5,674
31	50	67	284	$ 676	76	296	544	4,164	$ 9,307
32	51	66	254	$ 760	77	336	540	5,636	$ 12,466
33	47	61	365	$ 859	78	278	426	4,507	$ 9,730
34	57	73	352	$ 924	79	322	441	7,634	$ 13,320
35	60	83	395	$ 918	80	332	539	3,585	$ 8,287
36	59	76	351	$ 846	81	311	582	8,271	$ 16,113
37	57	81	461	$ 1,089	82	380	600	5,593	$ 12,493
38	64	88	341	$ 921	83	402	667	5,205	$ 11,805
39	69	89	375	$ 904	84	395	614	4,430	$ 9,447
40	75	115	548	$ 1,320	85	291	485	4,670	$ 10,412
41	75	107	408	$ 1,054	86	309	415	2,511	$ 6,441
42	80	112	459	$ 1,172	87	350	563	6,863	$ 14,003
43	65	96	330	$ 910	88	446	615	5,215	$ 11,928
44	68	84	294	$ 859	89	411	857	9,946	$ 19,679
					90 & Up	419	622	6,885	$ 14,891

Note: Numbers exclude hospitalizations for childbirth and pregnancy.
Sources: NWT Health and Social Services, Canadian Institute for Health Information, and NWT Bureau of Statistics.

While health does deteriorate with age, decades of lifestyle choices also begin to show a cumulative impact in the middle age years. Here, hospital services consumed were dominated by conditions related to the digestive, circulatory and respiratory systems, as well as cancers. Into the senior years, the reasons for hospitalizations shift again, as the frequency and duration of hospitalizations increase. Heart attacks and strokes, cancer, pneumonia and chronic obstructive pulmonary diseases are prominent reasons for hospitalizations, for those 65 to 74 and 75 and over.

Reasons for Hospitalization - Overall

When reasons or causes of hospitalization activity are provided, the categories used come from the *International Classification of Diseases and Health Related Problems 10th Revision* (ICD-10). There are 17 classifications (or chapters) for 'known' or 'suspected' medical conditions that are relevant to this report (see below). Each one of these chapters contains several hundred codes, each of which provides a particular identification of the medical condition in question.

The following are the ICD-10 chapters that are often in the top five, for most age groups, as reasons for hospitalization of a NWT resident:

1. Diseases of the respiratory system (bronchitis, bronchiolitis, asthma, pneumonia and influenza)
2. Injury and poisoning (falls, car and off-road vehicle accidents, self-injury, assault and complications due to surgery and other medical procedures or treatments)
3. Diseases of the digestive system (intestinal conditions, gallstones, gastritis, hernias and ulcers)
4. Mental and behavioural disorders (alcohol and drug abuse, schizophrenia, depression, dementia)

The following are the ICD-10 chapters that occur in the top five on occasion:

1. Diseases of the circulatory system (heart attacks, strokes)
2. Neoplasms (cancerous and non-cancerous growths)
3. Certain infectious and parasitic diseases (intestinal infections, whooping cough, septicaemia)
4. Congenital malformations, deformations and chromosomal abnormalities

The following are the remaining ICD-10 chapters that rarely, or do not, occur in the top five:

1. Diseases of the nervous system
2. Certain conditions originating in the perinatal period
3. Diseases of the skin and subcutaneous tissue
4. Diseases of the blood and blood-forming organs, and certain disorders involving the immune mechanism.
5. Endocrine, nutritional, and metabolic Diseases (e.g., diabetes)
6. Diseases of the genitourinary system
7. Diseases of the musculoskeletal system and connective tissue
8. Diseases of the eye and adnexa
9. Diseases of the ear and mastoid process

Two other ICD-10 chapters are examined:

1. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
2. Factors influencing health status and contact with health services

The first ICD-10 chapter, where the problem is unknown, often involves the hospitalization of patients who are exhibiting symptoms or signs of a health issue, such as pain, trouble breathing, or dizziness. What illness, or illnesses, caused these symptoms had not been diagnosed by the time of their discharge from the hospital. The second ICD-10 chapter often involves patients who are recovering and/or receiving rehabilitative therapy after surgery and other treatments, as well as patients awaiting care elsewhere, patients where the regular caregiver requires respite, or palliative care.

Reasons for Hospitalization – Focus on Mental Health

Chapter four focuses on hospitalizations where there was at least one diagnosis of a mental health issue on the patients' chart. Reasons for mental health-related hospitalizations generally fall into one of several ICD-10 sub-chapters.

The following are the ICD-10 sub-chapters that represent almost all the reasons for mental health hospitalizations of a NWT resident:

1. Mental and behavioural disorders due to psychoactive substance use (alcohol abuse/dependency, drug abuse/dependency)
2. Organic, including symptomatic, mental disorders (dementia)
3. Mood disorders (depression, mania, bi-polar)
4. Schizophrenia, schizotypal and delusional disorders (schizophrenia)
5. Anxiety disorders (phobias, stress, obsessive-compulsive disorder)[31]

The following are the ICD-10 sub- chapters that rarely represent the reasons for mental health hospitalizations of a NWT resident:

1. Disorders of adult personality and behaviour
2. Mental Retardation
3. Disorders of psychological development
4. Behavioural and emotional disorders with onset usually occurring in childhood and adolescence.
5. Unspecified mental disorder

[31] Anxiety disorders is not a formal ICD-10 sub-chapter but rather a sub-set of mental disorders as defined in CIHI, *Hospital Mental Health Services in Canada, 2009-2010*, p. 26.

Reasons for Hospitalization – Focus on Diabetes

The ICD-10 codes E10 to E14 were used as a definition of diabetes. These are the same codes that form the case definition for diabetes tracked by the Public Health Agency of Canada's Chronic Disease Surveillance System.

Reasons for Hospitalization – Focus on Chronic Kidney Disease

The ICD-10 codes used for a definition of chronic kidney disease were taken from in Bin Tong and Chris Stevenson, *Comorbidity of cardiovascular disease, diabetes and chronic kidney disease in Australia*, (Canberra: Australian Institute of Health and Welfare, 2007), Cardiovascular Disease Series No. 28, pp. 51-52.

Metrics

The main body of the report focuses on proportions (percentages). Numbers are presented to provide an indication of the magnitude of patient volume and estimated cost. Because age groups are not compared to one another, nor are regions contrasted, rates are generally not used. However, population-based rates are provided in the tables in Appendix B.

Cost Estimates

The purpose of estimating cost in this report is to be able to provide a relative rank of resources necessary to treat those hospitalized one condition from another, and not to provide an absolute measure of cost. Cost estimates are based on 2012/13 hospital bed day rates set by the Interprovincial Health Insurance Agreements Coordinating Committee (IHIACC) and resource intensity weights (RIWs), calculated by CIHI.

In-territory hospitalization cost estimates have been derived by multiplying 2012/13 per diem rates set for general ward (GW) and intensive care unit (ICU) beds for NWT facilities by the total number of GW and ICU beds used in each fiscal year. The total cost for each facility is then proportioned out against each patient by the relative resources they have been estimated to have consumed during their stay in the hospital. The estimation of these resources is derived from the resource intensity weight (RIW), calculated by CIHI, for each discharge. The RIW is an estimation of the inpatient facility resources used to care for a patient, and is primarily based on the patient's conditions, length of stay, surgical/procedural events, and age.

Out of territory hospitalization costs have been estimated by multiplying 2012/13 IHIACC per diem (per day) rates for each facility (GW and ICU) against each discharge. RIWs have not been used to further allocate costs for each discharge given that the rates are what would be charged, in 2012/13, by other provinces for the services NWT patients received.

2012/13 IHIACC rates have been used to provide estimate of total hospitalization costs that was more reflective of present costs, rather than those two to four years old (2008/09 to 2010/11).

Hospitalizations

Not only can people be hospitalized more than once in a year, they can also be counted as being hospitalized several times if they have been transferred from one hospital to the next.

Ethnicity

Ethnicity in this report is based on program status and is not self-identified (e.g., Census). Programs such as Non-Insured Health Benefits and Metis Health Benefits require applicants to be Status Indian (Dene), Status Inuit or Registered Indigenous Metis in order to receive their respective benefits. Ethnicity is identified by letter on the NWT Health Care Plan (HCP) number.

In some cases, the patient's ethnicity is not known for one of several possible reasons: the patient does not have a HCP number at the time (e.g., some infants); the patients have their health care covered by a third party (e.g., Workers Compensation, some federal government employees, and those citizens incarcerated); and those patients who have recently moved to the NWT.

Exclusions

Newborns have been excluded from the analysis of this report. The focus of this report is primarily on the morbidity determining the use of hospital services, and as such one's birth is not a disease. Hospitalizations due to childbirth and pregnancy have been excluded from parts of this report.

Patients residing in the long-term care wards of NWT hospitals have been excluded – except when they required hospital services outside of the long-term care ward.

Non-resident hospital service utilization has also been excluded.